# TC-H1700

# SERVICE MANUAL

*Canadian Model*
*AEP Model*
*UK Model*
*E Model*
*Australian Model*
*East European Model*

This set is the deck section in MHC-H1700, FH-E656.

| Model Name Using Similar Mechanism | TC-WR520/WR520S | |
|---|---|---|
| Tape Transport Mechanism Type | DECK A | TCM-190RA12AS |
| | DECK B | TCM-190RB22A |

## SPECIFICATIONS

| | |
|---|---|
| Recording system | 4-track 2-channel stereo |
| Frequency response | (DOLBY NR OFF)<br>40 — 13,000 Hz (±3 dB)<br>using TYPE I cassette<br>(Sony HF-S)<br>40 — 14,000 Hz (±3 dB)<br>using TYPE II cassette<br>40 — 15,000 Hz (±3 dB)<br>Using TYPE IV cassette<br>(For U.S.A. and Canada,<br>Sony METAL-SLT.<br>For Europe, U.K., and other<br>countries, Sony METAL-S) |
| Wow and flutter | 0.1% WRMS ±0.3% (DIN) |
| Dimensions | Approx. 225 x 125 x 230 mm (w/h/d)<br>($8^{7}/_{8}$ x 5 x $9^{1}/_{8}$ inches)<br>incl. projecting parts and controls |
| Weight | Approx. 2.5 kg (5 lb 8 oz) |

Design and specifications subject to change without notice.

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SAFETY-RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY MARK ⚠ OR DOTTED LINE WITH MARK ⚠ ON THE SCHEMATIC DIAGRAMS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

ATTENTION AU COMPOSANT AYANT RAPPORT À LA SÉCURITÉ!

LES COMPOSANTS IDENTIFIÉS PAR UNE MARQUE ⚠ SUR LES DIAGRAMMES SCHÉMATIQUES ET LA LISTE DES PIÈCES SONT CRITIQUES POUR LA SÉCURITÉ DE FONCTIONNEMENT. NE REMPLACER CES COMPOSANTS QUE PAR DES PIÈCES SONY DONT LES NUMÉROS SONT DONNÉS DANS CE MANUEL OU DANS LES SUPPLÉMENTS PUBLIÉS PAR SONY.

使用時は添付資料も参照のこと
Refer to the additional documents.

## STEREO CASSETTE DECK

SONY®

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**NOTE :**
G : Germany model
AUS : Australian model
EA : Saudi Arabia model
EE : East European model

# SECTION 1
# SERVICING NOTE

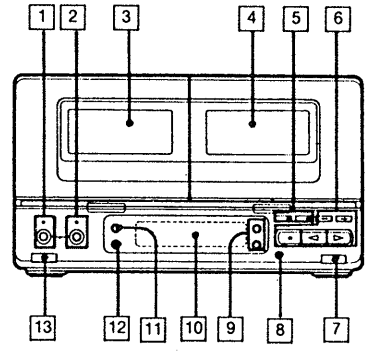
### SUPPLY OF POWER DURING SERVICES

Because the equipment is not provided with any power supply, it is operated with power supplied from the amplifier HCD-H1700 used. The equipment requires the following 2 types of voltage. Therefore, connect the equipment to HCD-H1700 for services such as repairing with power supplied, because it will be too complicated to supply these voltages individually.

| VOLTAGE | MAJOR CIRCUIT IN USE |
|---|---|
| AC 3V | FL tube filament voltage (VF) |
| AC 9V | Micro-computer, audio, motor section Vcc |

# SECTION 2
# GENERAL

This section is extracted from instruction manual.



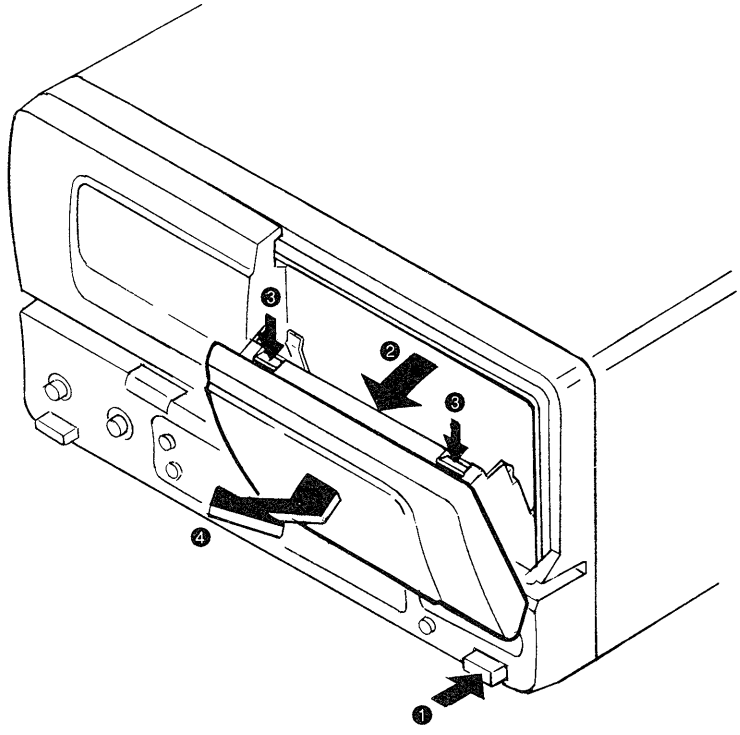

1 DUBBING MODE button and indicator
2 CD SYNCHRO (CD synchronized recording) button and indicator
3 Cassette holder (Deck A)
4 Cassette holder (Deck B)
5 Tape operation buttons (for Deck B only)
PAUSE ⏸
REC ● (recording)
6 Tape operation buttons (for Deck A and B)
AMS ◀◀ ▶▶ : Fast winding
■ : Stop
▷ : Forward play
◁ : Reverse play
7 ⏏ (eject) button (Deck B)
8 DIRECTION MODE button
9 DECK A/B selection buttons and indicators
10 Display window
11 RESET (counter reset) button
12 DOLBY NR (Dolby Noise Reduction) button
13 ⏏ (eject) button (Deck A)

# SECTION 3
# DISASSEMBLY

- **Remove the following devices shown by ❶, etc. in the order of the numbers.**

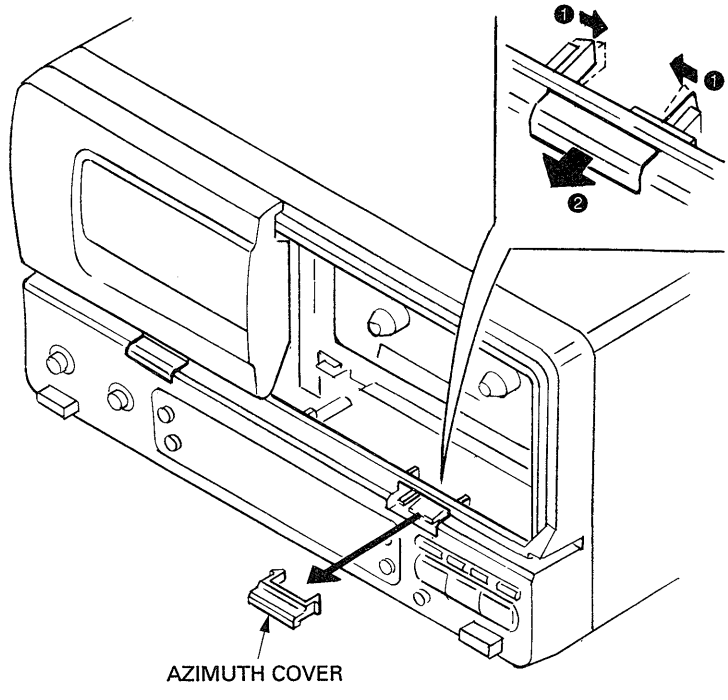
## CASSETTE LID

Remove 2 hooks and remove the cassette lid.




## AZIMUTH COVER

After completion of removing the cassette lid, remove the azimuth cover by pushing the hooks toward inside.



# SECTION 4
# ADJUSTMENTS

## 4-1. MECHANICAL ADJUSTMENT

**PRECAUTION**

1. Clean the following parts with a denatured-alcohol-moistened swab:
   record / playback head — pinch roller
   erase head — rubber belts
   capstan — idler
2. Demagnetize the record / playback head with a head demagnetizer
3. Do not use a magnetized screwdriver for the adjustments.
4. After the adjustments, apply suitable locking compound to the parts adjusted.
5. The adjustments should be performed in the rated power supply voltage unless otherwise noted.

**Torque Measurement**

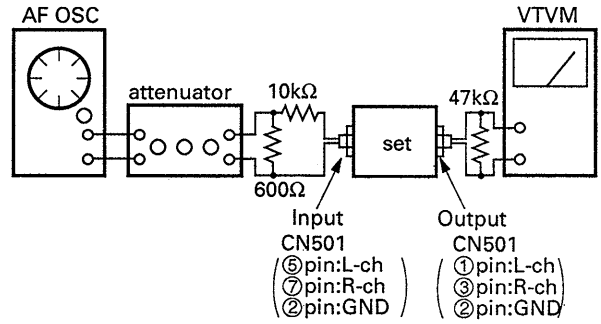
| Torgue | Torque meter | Meter reading |
|---|---|---|
| FWD | CQ-102C | 35 to 60g•cm (0.49 to 0.83 oz•inch) |
| FWD Back tension | CQ-102C | 2 to 6g•cm (0.028 to 0.08 oz•inch) |
| REV | CQ-102RC | 35 to 60g•cm (0.49 to 0.83 oz•inch) |
| REV Back tension | CQ-102RC | 2 to 6g•cm (0.028 to 0.08 oz•inch) |
| FF, REW | CQ-201B | 70 to 110g•cm (0.98 to 1.52 oz•inch) |

## 4-2. ELECTRICAL ADJUSTMENT

**Note :** The adjustment should be performed in the order given in the service manual. As a rule, adjustment about playback should be performed before adjustment about recording. The adjustments should be performed for both L-CH and R-CH.

- Switches and controls should be set as follows unless otherwise specified.
  DOLBY NR switch : OFF
  DIRECTION MODE switch : ⇄
- Standard Record :
  Deliver the standard input signal level to the input jack and set the REC LEVEL control to obtain the standard output signal level.

**– Record Mode –**




Standard Input Level

| input terminal | Input (CN501) |
|---|---|
| source impedance | 10kΩ |
| input level | 0.39V (–6dB) |

Standard Output Level

| output terminal | Output (CN501) |
|---|---|
| load impedance | 47kΩ |
| output level | 0.39V (–6dB) |

Test tape

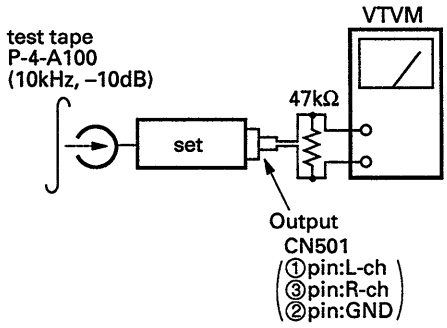
| Type | Signal | Used for |
|---|---|---|
| P-4-A100 | 10kHz, –10dB | Azimuth Adjustment |
| P-4-L300 | 315Hz, 0dB | PB Level Adjustment |
| WS-48B | 3kHz, 0dB | Tape Speed Adjustment |

## Record / Playback Head Azimuth Adjustment

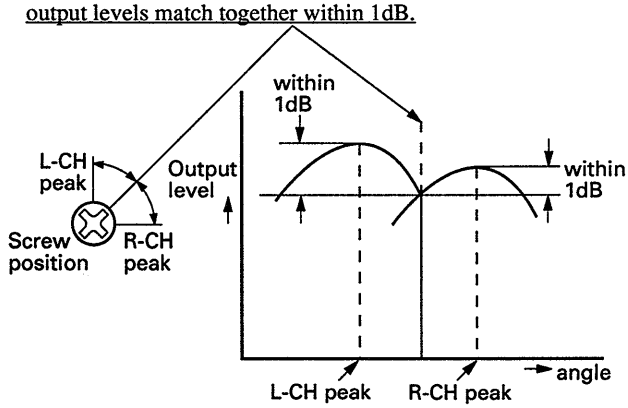
DECK A | DECK B

**Procedure :**

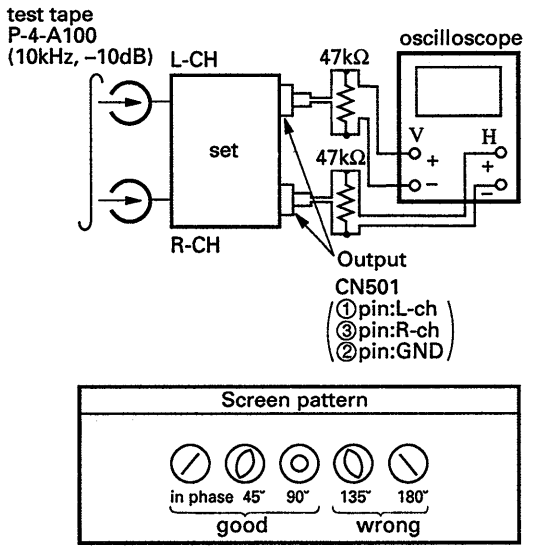
1. Mode : FWD Playback




2. Turn the adjustment screw for the maximum output levels. If these levels do not match, turn the adjustment screw until both of output levels match together within 1dB.



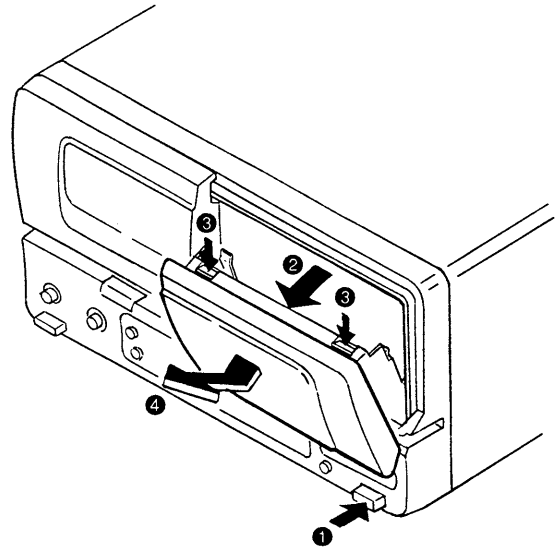

3. Phase Check
   Mode : FWD playback



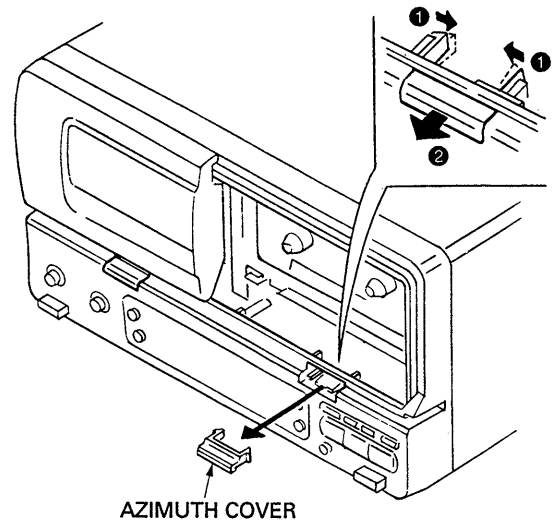

4. Set in the REV mode and repeat the step 1-3.
5. After the adjustment, lock the screws with locking compound.

**Adjustment Location : Record / Playback head**

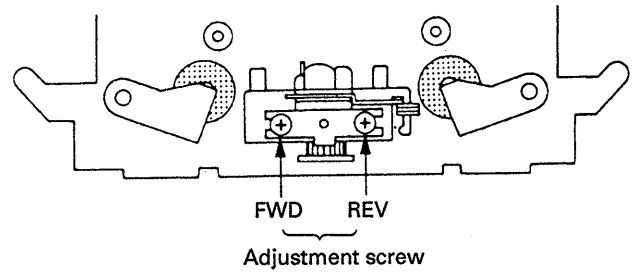
- Remove 2 hooks and remove the cassette lid.



- Remove the azimuth cover by pushing the hooks toward inside.



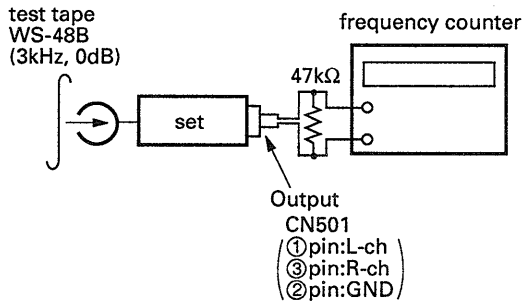

- Azimuth adjustment screw



### Tape Speed Adjustment DECK A DECK B

Perform high speed adjustment before normal speed adjustment

**Procedure :**
Mode : FWD playback




### (High speed adjustment) DECK A

1. Turn ON the power switch with TP601 of the main board shorted.
2. Set a WS-48B tape onto the deck A and press the ▷ switch to activate FWD.
3. Upon beginning FWD, press the S601 of the main board.
4. Confirm that the reading of the frequency counter satisfies 6,000 ± 30 Hz.
5. Adjust the RV72 (DECK A) so that the frequency counter reading becomes 6,000±30Hz .
6. Set in the REV mode and repeat the Step 2-5.

### (High speed adjustment) DECK B

1. Turn ON the power switch with TP601 of the main board shorted.
2. Set a WS-48B tape onto the deck B and press the ▷ switch to activate FWD.
3. Upon beginning FWD, press the S601 of the main board.
4. Confirm that the reading of the frequency counter satisfies 6,000 ± 30 Hz.
5. Adjust the RV72 (DECK B) so that the frequency counter reading becomes 6,000±30Hz .
6. Set in the REV mode and repeat the Step 2-5.
7. Disconnect the TP601.

**Note:** POWER ON/OFF switch of the HCD-H1700 is a micro-computer control switch. Therefore, if test mode cannot be actuated, disconnect the power supply plug out of the socket, plug it in again, and then repeat the operation 1.

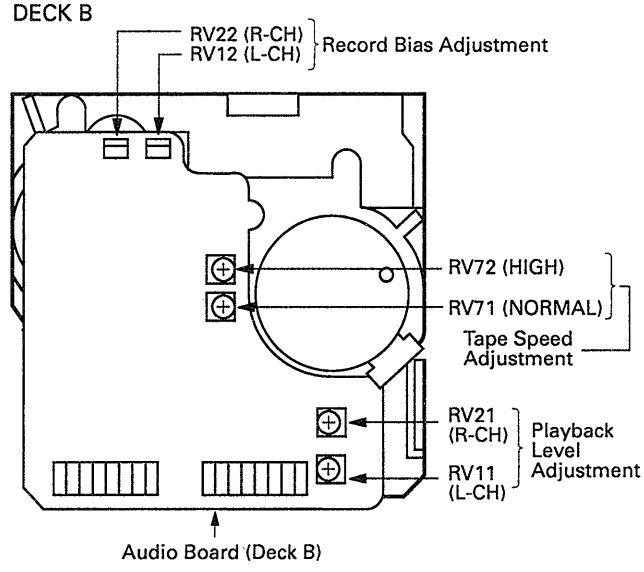
### (Normal speed adjustment) DECK A DECK B

1. Set a WS-48B tape onto the deck A.
2. Press the ▷ switch to activate FWD.
3. Confirm that the reading of the frequency counter satisfies 3,000 ± 15 Hz.
4. If the above is not satisfied, adjust the RV71 so that the readings of the frequency counter for both decks A and B become 3,000 ± 15 Hz.
5. Set in the REV mode and repeat the step 1-4.

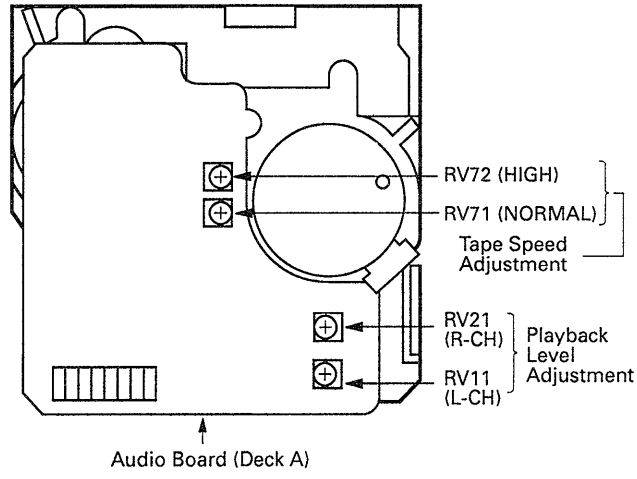
Frequency difference between the beginning and the end of the tape should be within 3%.
Frequency difference between deck A and deck B the beginning of the tape should be within 1%.

**Adjustment Location :** AUDIO board (DECK A),
AUDIO board (DECK B)

DECK B




DECK A

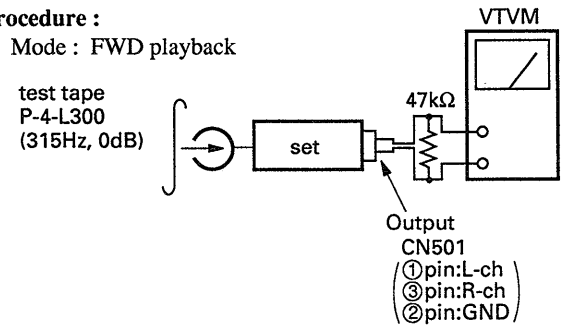


## Playback Level Adjustment

DECK A | DECK B

**Procedure :**

Mode : FWD playback




Adjust RV11 (L-CH), RV21 (R-CH) so that the reading on VTVM meets the adjustment limits below.

**Ajustment Limits :**

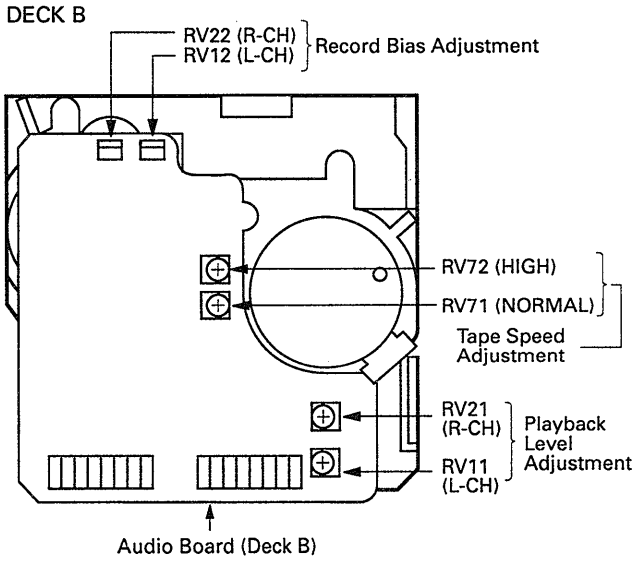
Output level : –6±1dB (0.35–0.44V)

Level difference between channels : less than 1dB

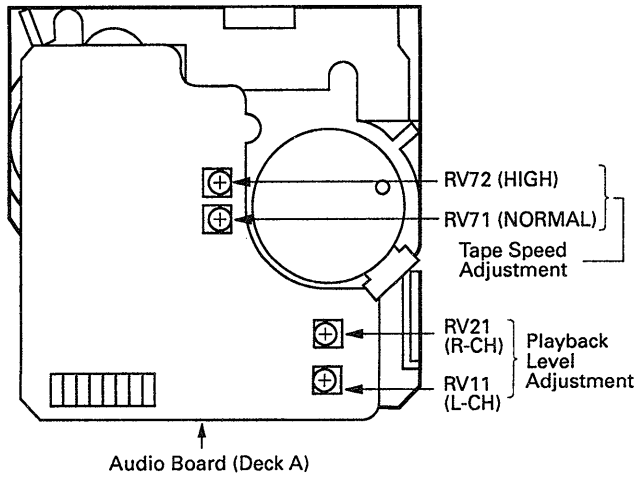
Confirm that the OUTPUT level does not change in playback mode while changing the mode from playback to stop several times.

**Adjustment Location :** AUDIO board (DECK A), AUDIO board (DECK B)

DECK B




DECK A




## Record Bias Adjustment

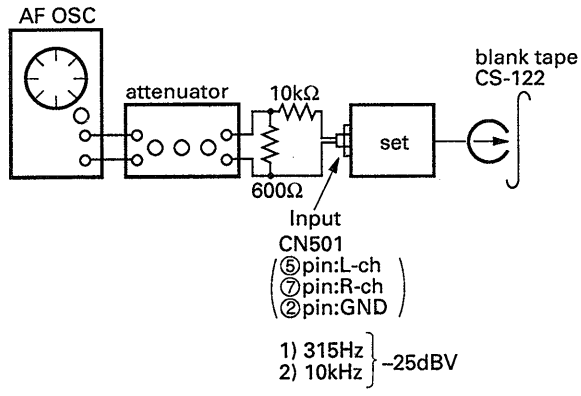
DECK B

**Setting :**

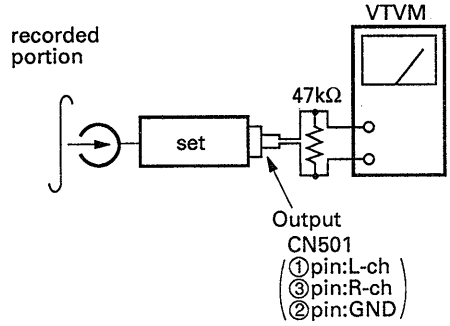
REC LEVEL control : Standard Record (See page 4).

**Procedure :**

1. Mode : record

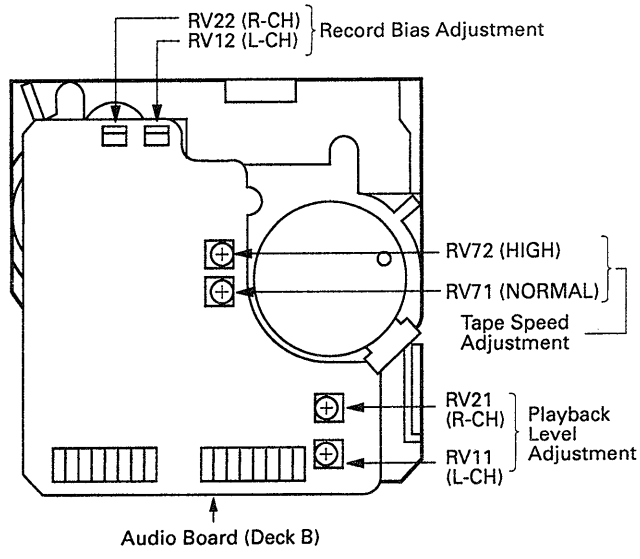



2. Mode : FWD playback




3. Playback the signal recorded in step 1.
   Confirm that the 10kHz playback output is 0±0.5dB relative to the 315Hz output. If necessary, adjust RV12 (L-CH), RV22 (R-CH) and repeat the steps given above.

**Adjustment Location :** AUDIO board (DECK B)



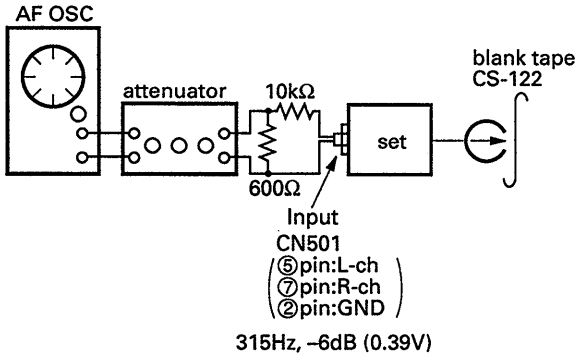
**Record Level Adjustment** DECK B

**Setting :**

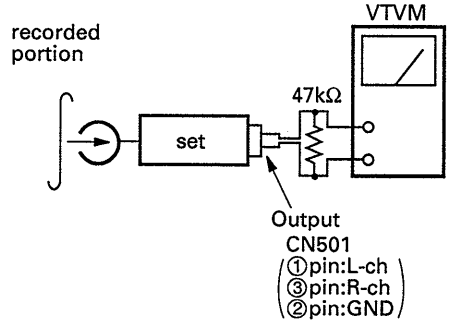
REC LEVEL control : Standard Record (See page 4).

**Procedure :**

1. Mode : record



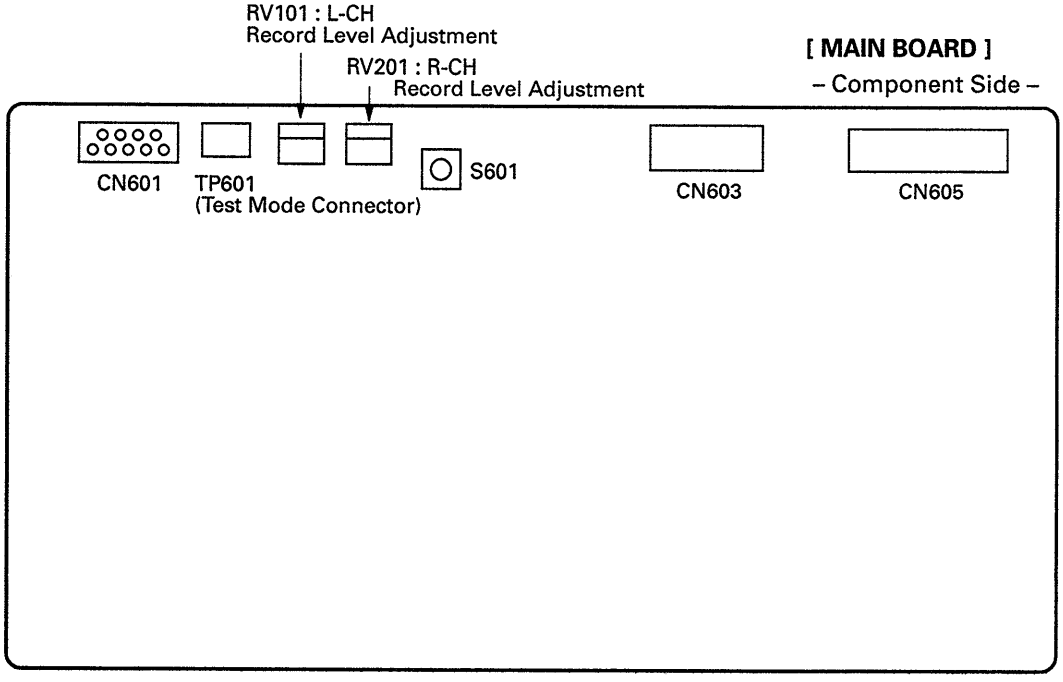

2. Mode : FWD playback




3. Playback the signal recorded in step 1.
   Confirm that the signal leve is within the adjustment limits below.
   If necessary, adjust RV101 (L-CH), RV201 (R-CH) and repeat the steps given above.

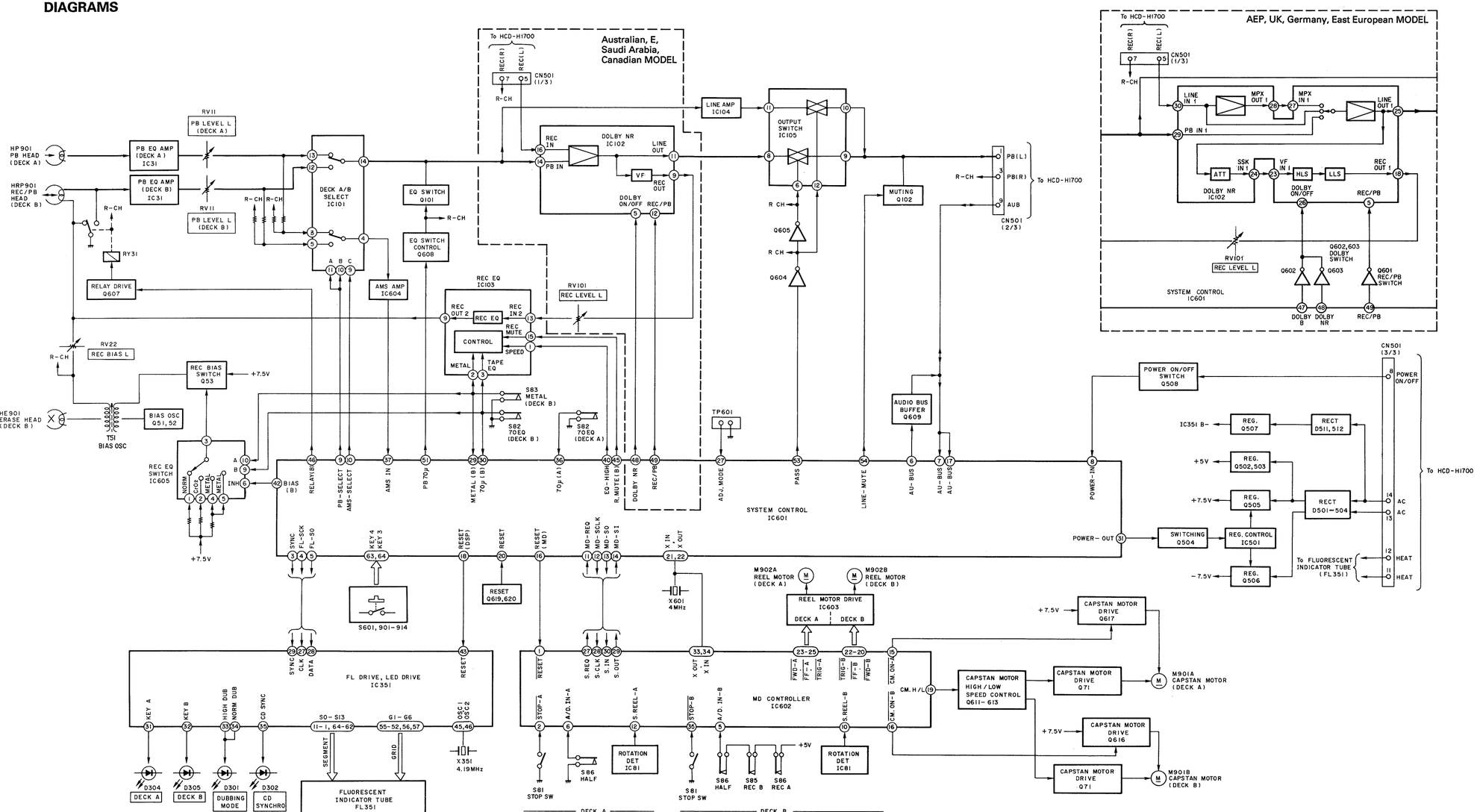
**Adjustment Limits :** –6dB±0.5dB (0.37–0.42V)

**Adjustment Location :** MAIN board



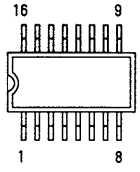
# SECTION 5
# DIAGRAMS

## 5-1. BLOCK DIAGRAM



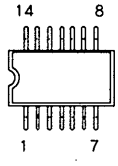
## 5-2. SEMICONDUCTOR LEAD LAYOUTS

**CD4052BCM**
**CXA1101M**
**CXA1578M**
**HD14053BFP**



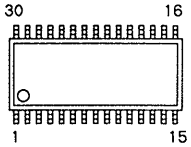
(TOP VIEW)

**CD4066BCM**



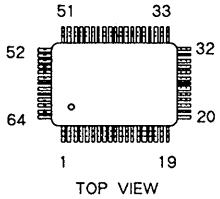
(TOP VIEW)

**CXA1331M**



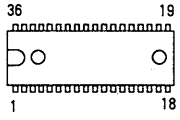
(TOP VIEW)

**HD614023-FA93**



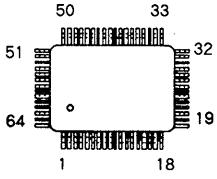
TOP VIEW

**M50925-482FP**



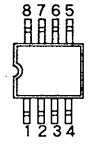
(TOP VIEW)

**M50944-128FP**



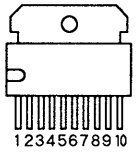
TOP VIEW

**RC4558PS**
**μ PC4570G2**



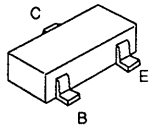
(TOP VIEW)

**TA7272P**

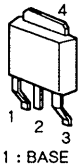


Marking side view

**UN2211**
**2SC1602-F**
**2SC3397**
**2SC3900**
**2SC4154-F**

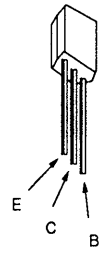



**2SA1341**

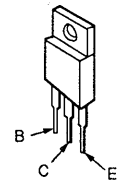


1 : BASE
2 : COLLECTOR
3 : EMITTER
4 : COLLECTOR

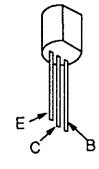
**2SA1344**



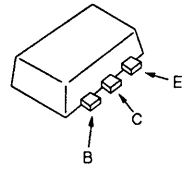

**2SB1094-LK**
**2SD2012**



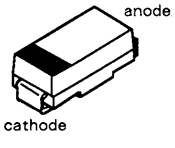

**2SB1116A-L**



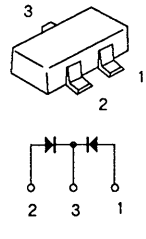

**2SB1121-ST**
**2SD1622-S**



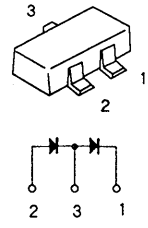

**EC10DS2**



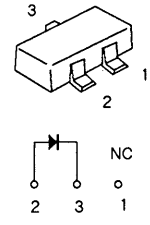

**MA152WK**



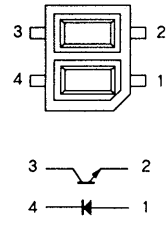

**MA153**



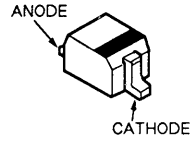

**MA3056L**
**MA3068L**
**MA3082**
**MA3091**
**MA3180**



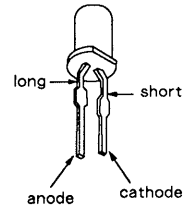

**NJL5165K-B**



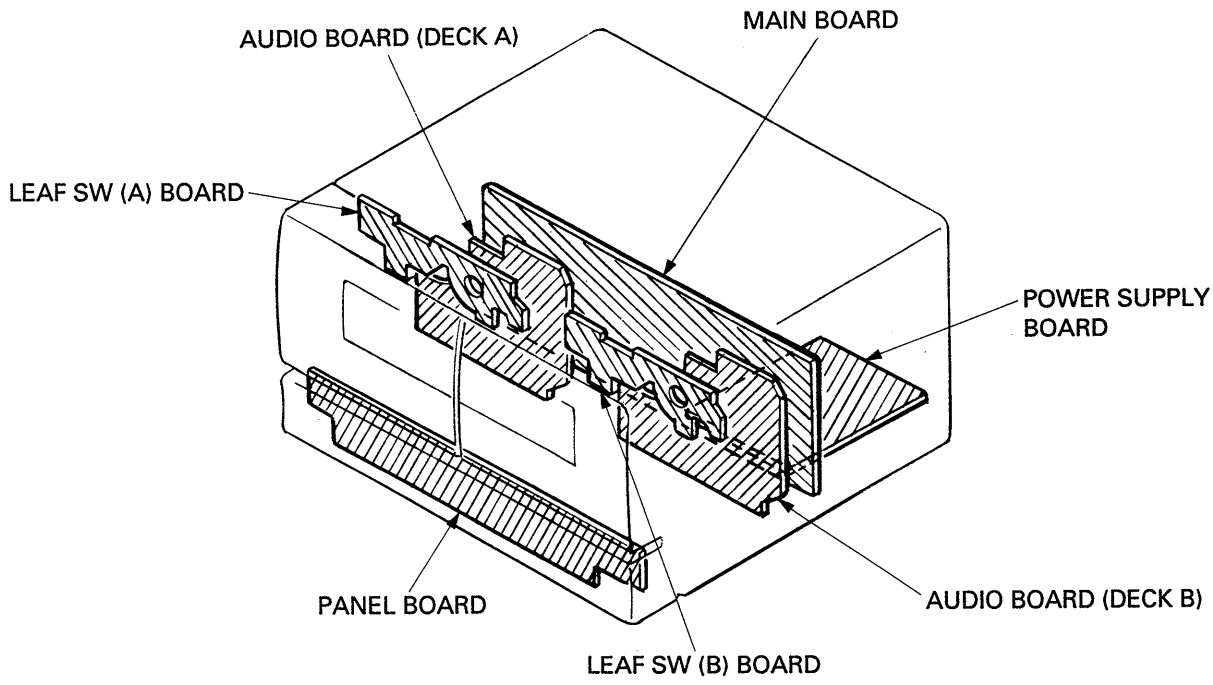

**1SS355**




**SEL2210S-C**



## 5-3. CIRCUIT BOARDS LOCATION



## ● SEMICONDUCTOR LOCATION

(MD/POWER SUPPLY SECTION)

– AEP, UK, Germany, East European Model –

( AUDIO BOARD (DECK A), LEAF SW (A) BOARD )

| Ref. No. | Location |
|---|---|
| IC31 | G-2 |
| IC81 | B-4 |
| Q71 | G-4 |

( AUDIO BOARD (DECK B), LEAF SW (B) BOARD )

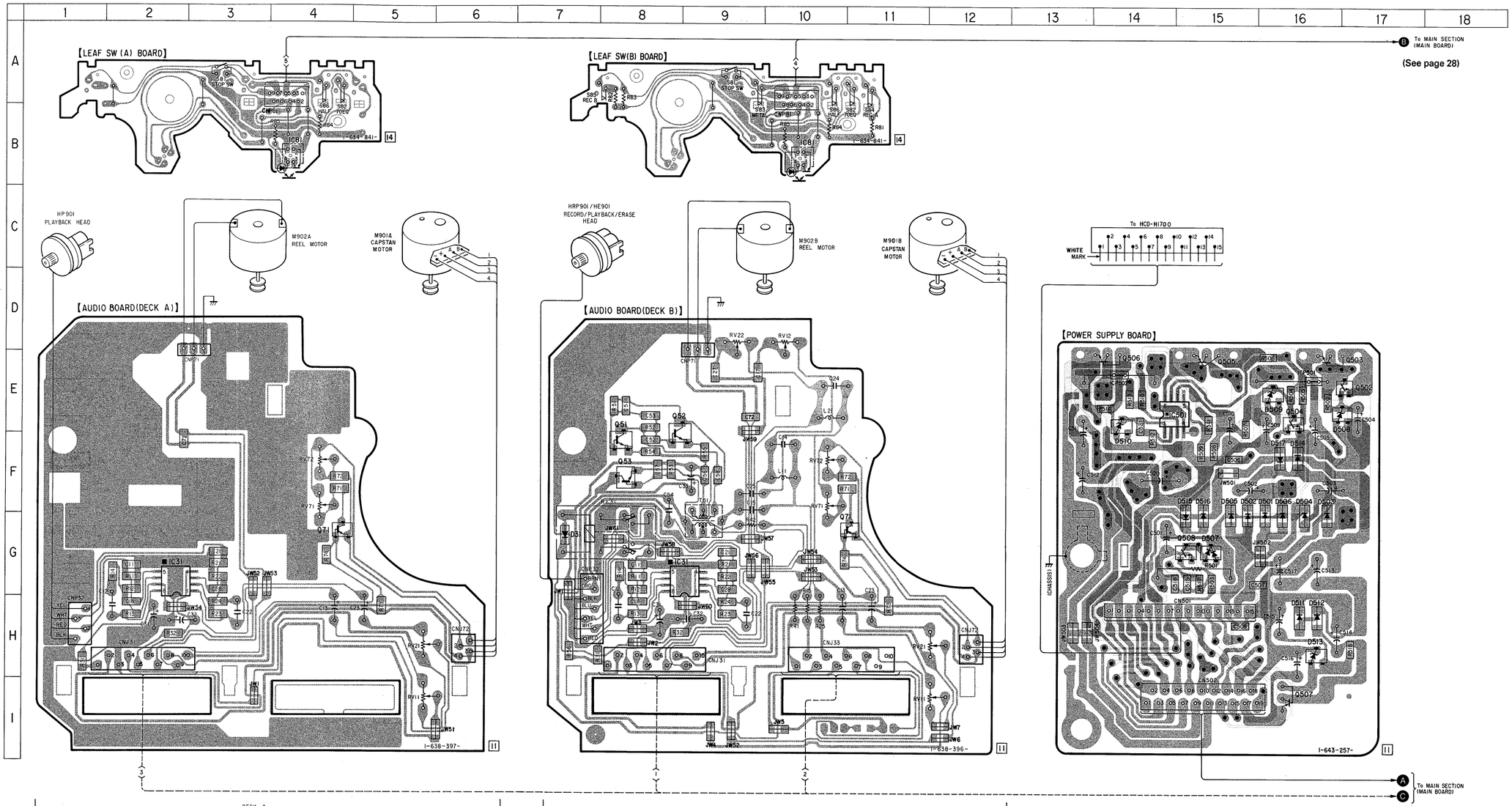
| Ref. No. | Location |
|---|---|
| D31 | G-7 |
| IC31 | G-8 |
| IC81 | B-10 |
| Q51 | E-8 |
| Q52 | E-8 |
| Q53 | F-8 |
| Q71 | G-11 |

(POWER SUPPLY BOARD)

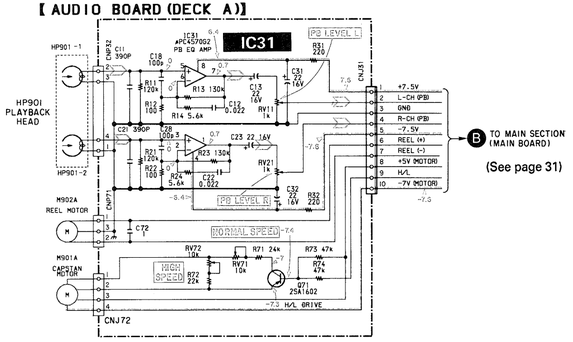
| Ref. No. | Location | Ref. No. | Location |
|---|---|---|---|
| D501 | F-16 | D515 | F-15 |
| D502 | F-15 | D516 | F-15 |
| D503 | F-16 | D517 | F-16 |
| D504 | F-16 | | |
| D505 | F-15 | IC501 | E-14 |
| D506 | F-16 | Q502 | E-17 |
| D507 | G-15 | Q503 | E-16 |
| D508 | E-16 | Q504 | E-16 |
| D509 | E-16 | Q505 | E-15 |
| D510 | E-14 | Q506 | E-14 |
| D511 | H-16 | Q507 | I-16 |
| D512 | H-16 | Q508 | G-15 |
| D513 | H-16 | | |
| D514 | F-16 | | |

**Notes on printed wiring boards:**

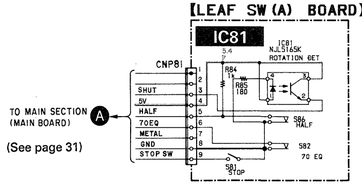
- ○—— : Indicated a lead wire mounted on the component side
- ■ : Parts mounted on the conductor side
- ● : Through hole
- ▒▒ : Pattern from the side which enables seeing
- ▒▒ : Pattern of the rear side



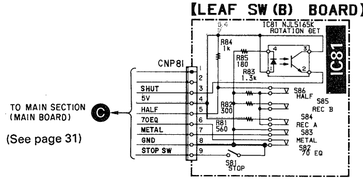
【AUDIO BOARD (DECK A)】



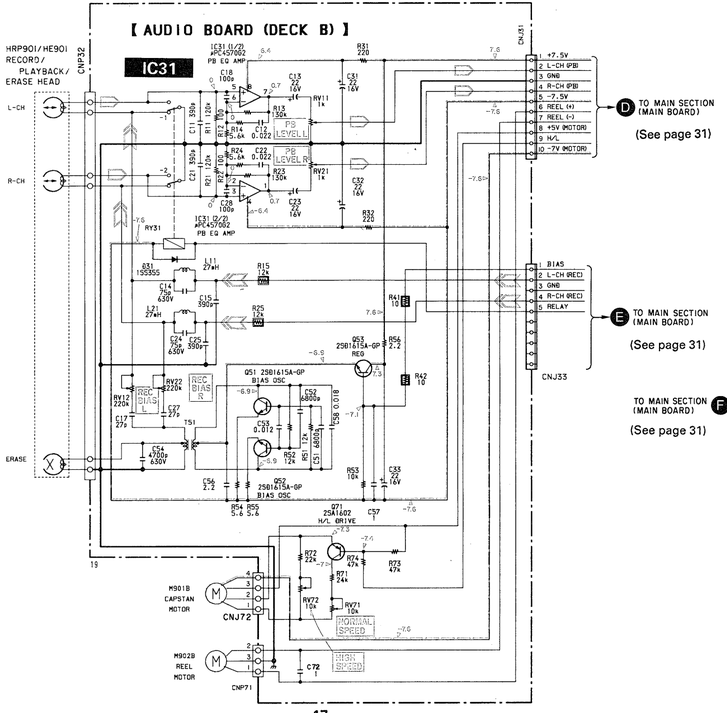

【LEAF SW (A) BOARD】



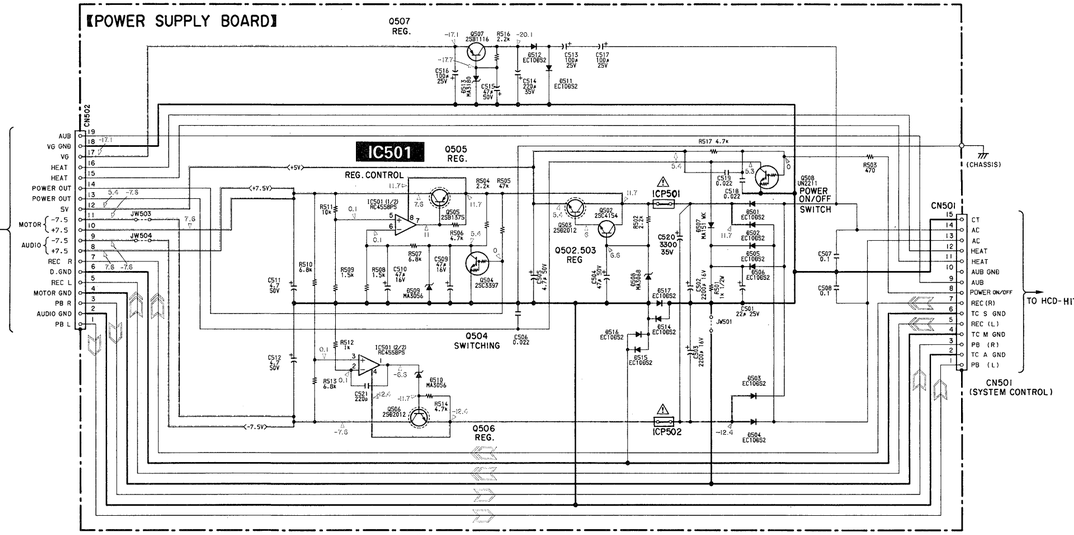

【LEAF SW (B) BOARD】




【AUDIO BOARD (DECK B)】




【POWER SUPPLY BOARD】




**Notes on schematic diagram:**

- All capacitors are in µF unless otherwise noted. pF: µµF 50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in ohms, 1/4W or less unless otherwise noted.
- : Fuse resistor

| |
|---|
| The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.<br>Replace only with part number specified. |
| Les composants identifiés par une marque ⚠ sont critiques pour la sécurité.<br>Ne les remplacer que par une pièce portant le numéro spécifié. |

- : B+ Line
- : B– Line
- : Adjustment for repair
- Voltage are dc with respect to ground under no-signal conditions.
- No mark : PLAY
  ( ) : REC
- Voltages are taken with a VOM (input impedance 10MΩ). Voltage variations may be noted due to normal production tolerances.
- Signal path
  : PLAY (DECK A)
  : PLAY (DECK B)
  : REC (DECK B)

## 5-6. PRINTED WIRING BOARDS (MD/POWER SUPPLY SECTION) – Canadian, Australian, E, Saudi Arabia Model –

• See page 12 for semiconductor lead layouts and 13 for circuit boards location.

### ● SEMICONDUCTOR LOCATION

– Canadian, Australian, E, Saudi Arabia Model –

( AUDIO BOARD (DECK A), LEAF SW (A) BOARD )

| Ref. No. | Location |
|---|---|
| IC31 | G-2 |
| IC81 | B-4 |
| Q71 | G-4 |

( AUDIO BOARD (DECK B), LEAF SW (B) BOARD )

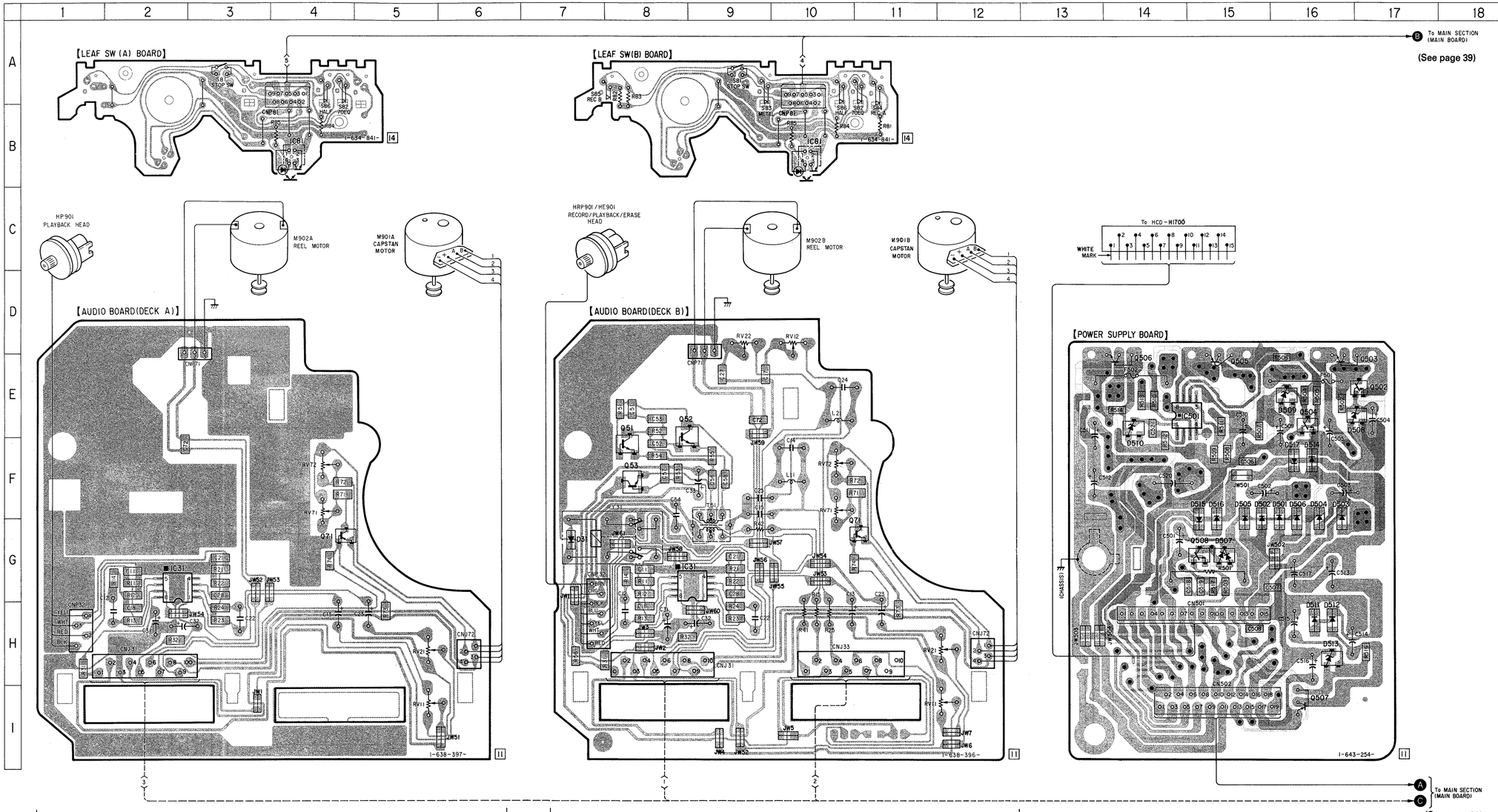
| Ref. No. | Location |
|---|---|
| D31 | G-7 |
| IC31 | G-8 |
| IC81 | B-10 |
| Q51 | E-8 |
| Q52 | E-8 |
| Q53 | F-8 |
| Q71 | G-11 |

(POWER SUPPLY BOARD)

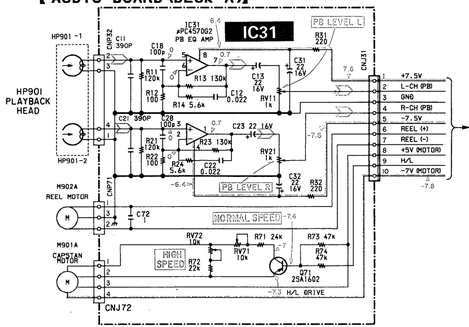
| Ref. No. | Location | Ref. No. | Location |
|---|---|---|---|
| D501 | F-16 | D515 | F-15 |
| D502 | F-15 | D516 | F-15 |
| D503 | F-16 | D517 | F-16 |
| D504 | F-16 | | |
| D505 | F-15 | IC501 | E-14 |
| D506 | F-16 | Q502 | E-17 |
| D507 | G-15 | Q503 | E-16 |
| D508 | E-16 | Q504 | E-16 |
| D509 | E-16 | Q505 | E-15 |
| D510 | E-14 | Q506 | E-14 |
| D511 | H-16 | Q507 | I-16 |
| D512 | H-16 | Q508 | G-15 |
| D513 | H-16 | | |
| D514 | F-16 | | |

**Notes on printed wiring boards:**

- o——: Indicated a lead wire mounted on the component side
- ■ : Parts mounted on the conductor side
- ● : Through hole
- ▒▒ : Pattern from the side which enables seeing
- ▒▒ : Pattern of the rear side

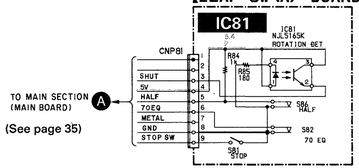


【AUDIO BOARD (DECK A)】



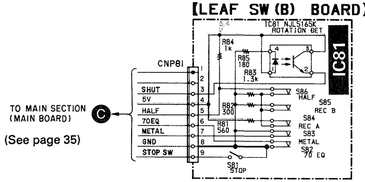

B TO MAIN SECTION (MAIN BOARD) (See page 35)

【LEAF SW (A) BOARD】



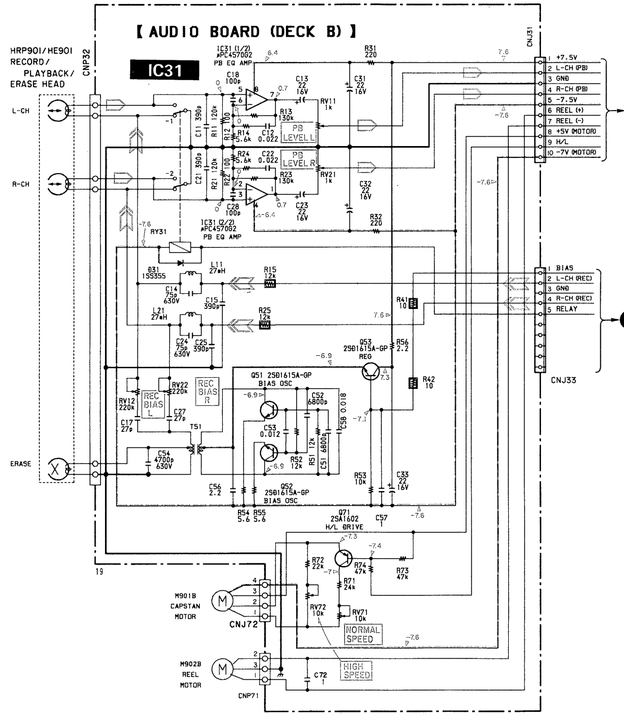

TO MAIN SECTION (MAIN BOARD) A (See page 35)

【LEAF SW (B) BOARD】




TO MAIN SECTION (MAIN BOARD) C (See page 35)

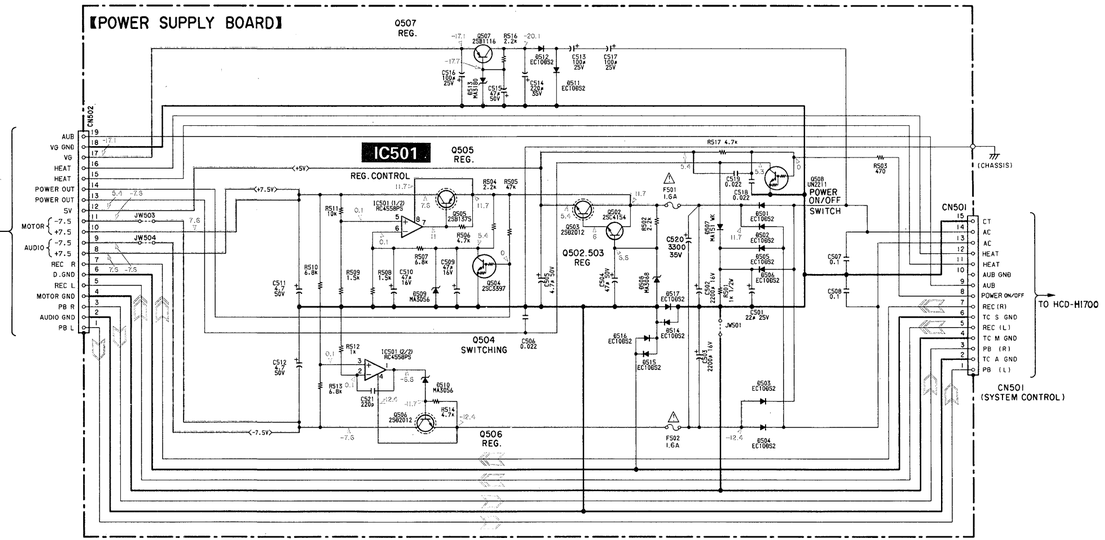
【AUDIO BOARD (DECK B)】




D TO MAIN SECTION (MAIN BOARD) (See page 35)

E TO MAIN SECTION (MAIN BOARD) (See page 35)

【POWER SUPPLY BOARD】




F TO MAIN SECTION (MAIN BOARD) (See page 35)

TO MAIN SECTION (MAIN BOARD) G (See page 35)

**Notes on schematic diagram:**

- All capacitors are in µF unless otherwise noted. pF: µµF 50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in ohms, 1/4W or less unless otherwise noted.
- : Fuse resistor

**The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.**
**Replace only with part number specified.**

**Les composants identifiés par une marque ⚠ sont critiques pour la sécurité.**
**Ne les remplacer que par une piéce portant le numéro spécifié.**

- : B+ Line
- : B– Line
- : Adjustment for repair
- Voltage are dc with respect to ground under no -signal conditions.
- No mark : PLAY
  ( ) : REC
- Voltages are taken with a VOM (input impedance 10MΩ). Voltage variations may be noted due to normal production tolerances.
- Signal path
  : PLAY (DECK A)
  : PLAY (DECK B)
  : REC (DECK B)

## ● SEMICONDUCTOR LOCATION

– AEP, UK, Germany, East European Model –

(MAIN SECTION)

| Ref. No. | Location |
|---|---|
| D301 | C-1 |
| D302 | C-3 |
| D304 | C-10 |
| D305 | B-10 |
| D601 | H-10 |
| D602 | H-4 |
| D603 | E-5 |
| D605 | E-4 |
| D606 | F-2 |
| D607 | F-3 |
| D608 | F-2 |
| D610 | G-8 |
| D611 | G-8 |
| D612 | G-9 |
| IC101 | G-8 |
| IC102 | H-11 |
| IC103 | H-7 |
| IC104 | F-10 |
| IC105 | F-9 |
| IC351 | B-6 |
| IC601 | G-6 |
| IC602 | G-2 |
| IC603 | G-1 |
| IC604 | H-3 |
| IC605 | H-4 |
| Q101 | F-9 |
| Q102 | G-9 |
| Q201 | F-8 |
| Q202 | F-9 |
| Q601 | I-10 |
| Q602 | I-9 |
| Q603 | H-9 |
| Q604 | E-9 |
| Q605 | F-9 |
| Q607 | H-6 |
| Q608 | G-7 |
| Q609 | F-4 |
| Q611 | G-3 |
| Q612 | H-2 |
| Q613 | H-2 |
| Q616 | G-4 |
| Q617 | G-3 |
| Q619 | G-4 |
| Q620 | G-5 |

**Notes on printed wiring boards:**

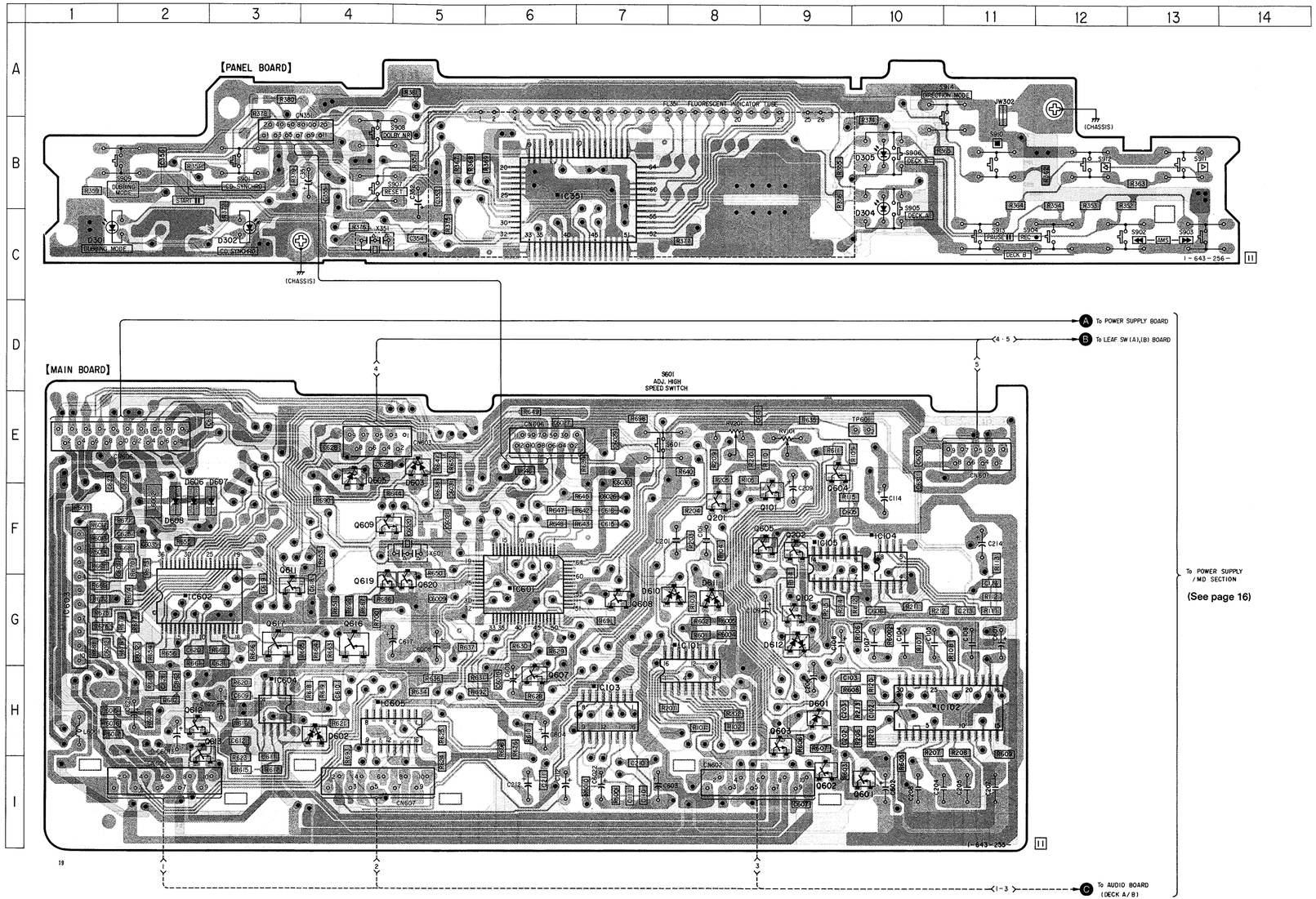
- ○——: Indicated a lead wire mounted on the component side
- ■ : Parts mounted on the conductor side
- ● : Through hole
- ▨ : Pattern from the side which enables seeing
- ▨ : Pattern of the rear side

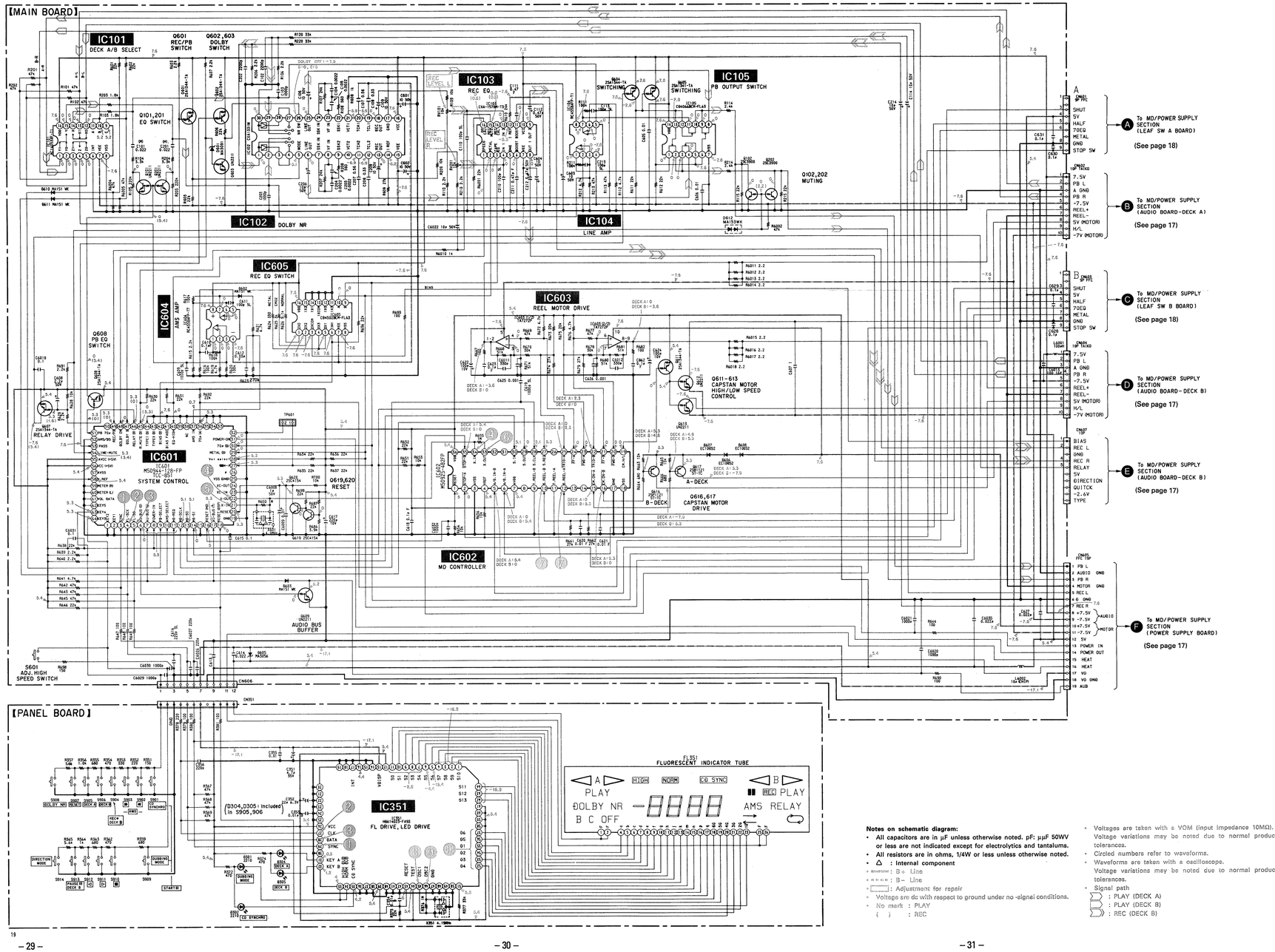


## 5-8. PRINTED WIRING BOARDS (MAIN SECTION)

– AEP, UK, Garmany, East European Model –

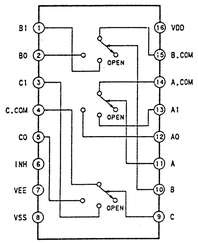
• See page 12 for semiconductor lead layouts and 13 for circuit boards location.



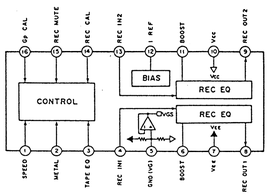

【MAIN BOARD】
IC101 DECK A/B SELECT
Q601 REC/PB SWITCH
Q602,603 DOLBY SWITCH
Q101,201 EQ SWITCH
IC103 REC EQ
IC105 PB OUTPUT SWITCH
Q102,202 MUTING
IC102 DOLBY NR
IC104 LINE AMP
IC605 REC EQ SWITCH
IC604 ANS AMP
IC603 REEL MOTOR DRIVE
Q608 PB EQ SWITCH
Q611-613 CAPSTAN MOTOR HIGH/LOW SPEED CONTROL
IC601 M50944-128-FP SYSTEM CONTROL
Q619,620 RESET
A-DECK
B-DECK
Q616,617 CAPSTAN MOTOR DRIVE
IC602 MD CONTROLLER
Q605 AUDIO BUS BUFFER
S601 ADJ. HIGH SPEED SWITCH
To MD/POWER SUPPLY SECTION (LEAF SW A BOARD) (See page 18)
To MD/POWER SUPPLY SECTION (AUDIO BOARD-DECK A) (See page 17)
To MD/POWER SUPPLY SECTION (LEAF SW B BOARD) (See page 18)
To MD/POWER SUPPLY SECTION (AUDIO BOARD-DECK B) (See page 17)
To MD/POWER SUPPLY SECTION (AUDIO BOARD-DECK B) (See page 17)
To MD/POWER SUPPLY SECTION (POWER SUPPLY BOARD) (See page 17)
【PANEL BOARD】
IC351 M66438M3AFP FL DRIVE, LED DRIVE
FL351 FLUORESCENT INDICATOR TUBE
PLAY
DOLBY NR
B C OFF
HIGH
NORM
CD SYNC
REC PLAY
AMS RELAY

## ● IC BLOCK DIAGRAMS – AEP, UK, Germany, East European Model –

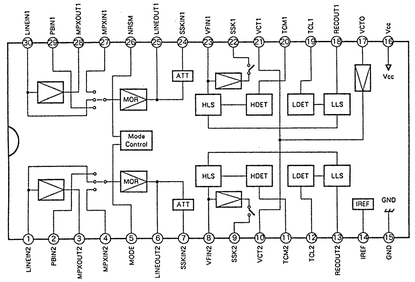
### IC101 HD14053BFP



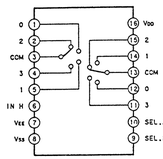

### IC103 CXA1578M



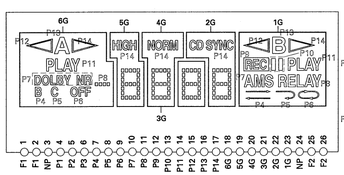

### IC102 CXA1331M

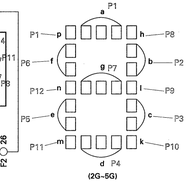



### IC605 CD4052BCM




## ● FLUORESCENT INDICATOR TUBE (FL351)




**Notes on schematic diagram:**

- **All capacitors are in μF unless otherwise noted. pF: μμF 50WV or less are not indicated except for electrolytics and tantalums.**
- **All resistors are in ohms, 1/4W or less unless otherwise noted.**
- **△ : internal component**
- + Microcomputer : B+ Line
- + : B− Line
- : Adjustment for repair
- Voltage are dc with respect to ground under no-signal conditions.
- No mark : PLAY
- ( ) : REC
- Voltages are taken with a VOM (input impedance 10MΩ). Voltage variations may be noted due to normal production tolerances.
- Circled numbers refer to waveforms.
- Waveforms are taken with a oscilloscope. Voltage variations may be noted due to normal production tolerances.
- Signal path
  - : PLAY (DECK A)
  - : PLAY (DECK B)
  - : REC (DECK B)

• See page 40 for pin functions and 44 for waveforms.

【MAIN BOARD】

IC101 DECK A/B SELECT

IC102 DOLBY NR

IC103 REC EQ

IC104 LINE AMP

IC105 PB OUTPUT SWITCH

IC601 MSM6688-FP SYSTEM CONTROL

IC602 MD CONTROLLER

IC603 REEL MOTOR DRIVE

IC604 AMS AMP

IC605 REC EQ SWITCH

Q101,201 EQ SWITCH

Q102,202 MUTING

Q608 PB EQ SWITCH

Q609 AUDIO BUS BUFFER

Q611–613 CAPSTAN MOTOR HIGH/LOW SPEED CONTROL

Q614 A-DECK

Q615 B-DECK

Q616,617 CAPSTAN MOTOR DRIVE

Q619,620 RESET

RELAY DRIVE

S601 ADJ. HIGH SPEED SWITCH

CN606

CN607 (A) 19P FFC
SHUT
5V
HALF
70EQ
METAL
GND
STOP SW
→ To MD/POWER SUPPLY SECTION (LEAF SW A BOARD) (See page 24)

CN602 (B) 10P TAIKO
7.5V
PB L
A GND
PB R
–7.5V
REEL+
REEL–
5V (MOTOR)
H/L
–7V (MOTOR)
→ To MD/POWER SUPPLY SECTION (AUDIO BOARD–DECK A) (See page 23)

CN603 (C) 9P FFC
SHUT
5V
HALF
70EQ
METAL
GND
STOP SW
→ To MD/POWER SUPPLY SECTION (LEAF SW B BOARD) (See page 24)

CN601 (D) 10P TAIKO
7.5V
PB L
A GND
PB R
–7.5V
REEL+
REEL–
5V (MOTOR)
H/L
–7V (MOTOR)
→ To MD/POWER SUPPLY SECTION (AUDIO BOARD–DECK B) (See page 23)

CN604 (E) 9P FFC
BIAS
REC L
GND
REC R
RELAY
5V
DIRECTION
QUITCK
–2.6V
TYPE
→ To MD/POWER SUPPLY SECTION (AUDIO BOARD–DECK B) (See page 23)

CN605 (F) FFC 19P
PB L
A AUDIO GND
PB R
MOTOR GND
REC L
B GND
REC R
+7.5V
–7.5V
+7.5V
–7.5V
5V
POWER IN
POWER OUT
HEAT
HEAT
VO
VO GND
AUB
→ To MD/POWER SUPPLY SECTION (POWER SUPPLY BOARD) (See page 23)

【PANEL BOARD】

CN651

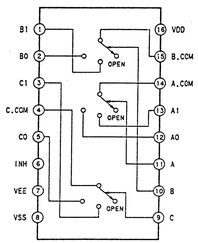
IC351 MSM6688 FL DRIVE, LED DRIVE

FL351 FLUORESCENT INDICATOR TUBE

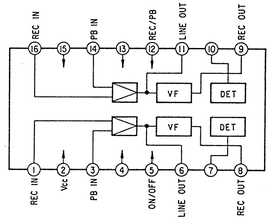
Notes on schematic diagram:
- All capacitors are in µF unless otherwise noted. pF: µµF 50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in ohms, 1/4W or less unless otherwise noted.
- △ : Internal component
- ▭▭▭ : B+ Line
- ▭▭▭ : B– Line
- ▭ : Adjustment for repair
- Voltage are dc with respect to ground under no-signal conditions.
- No mark : PLAY
  ( ) : REC
- Voltages are taken with a VOM (input impedance 10MΩ). Voltage variations may be noted due to normal production tolerance.
- Circled numbers refer to waveforms.
- Waveforms are taken with a oscilloscope. Voltage variations may be noted due to normal production tolerance.
- Signal path
  ▭▭▭ : PLAY (DECK A)
  ▭▭▭ : PLAY (DECK B)
  ▭▭▭ : REC (DECK B)

## ● IC BLOCK DIAGRAMS – Canadian, AEP, UK, Germany Model –

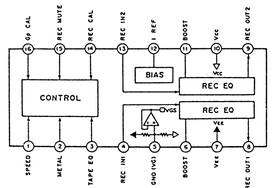
### IC101 HD14053BFP



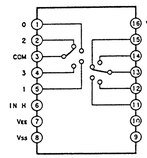

### IC102 CXA1101M



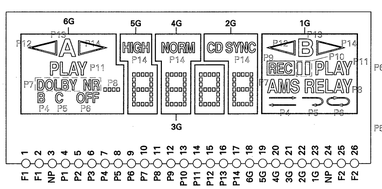

### IC103 CXA1578M

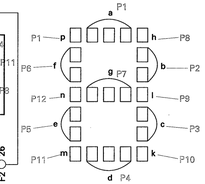



### IC605 CD4052BCM




## ● FLUORESCENT INDICATOR TUBE (FL351)



## 5-11. PRINTED WIRING BOARDS (MAIN SECTION) – Canadian, Australian, E, Saudi Arabia Model –

• See page 12 for semiconductor lead layouts and 13 for circuit boards location.

### ● SEMICONDUCTOR LOCATION

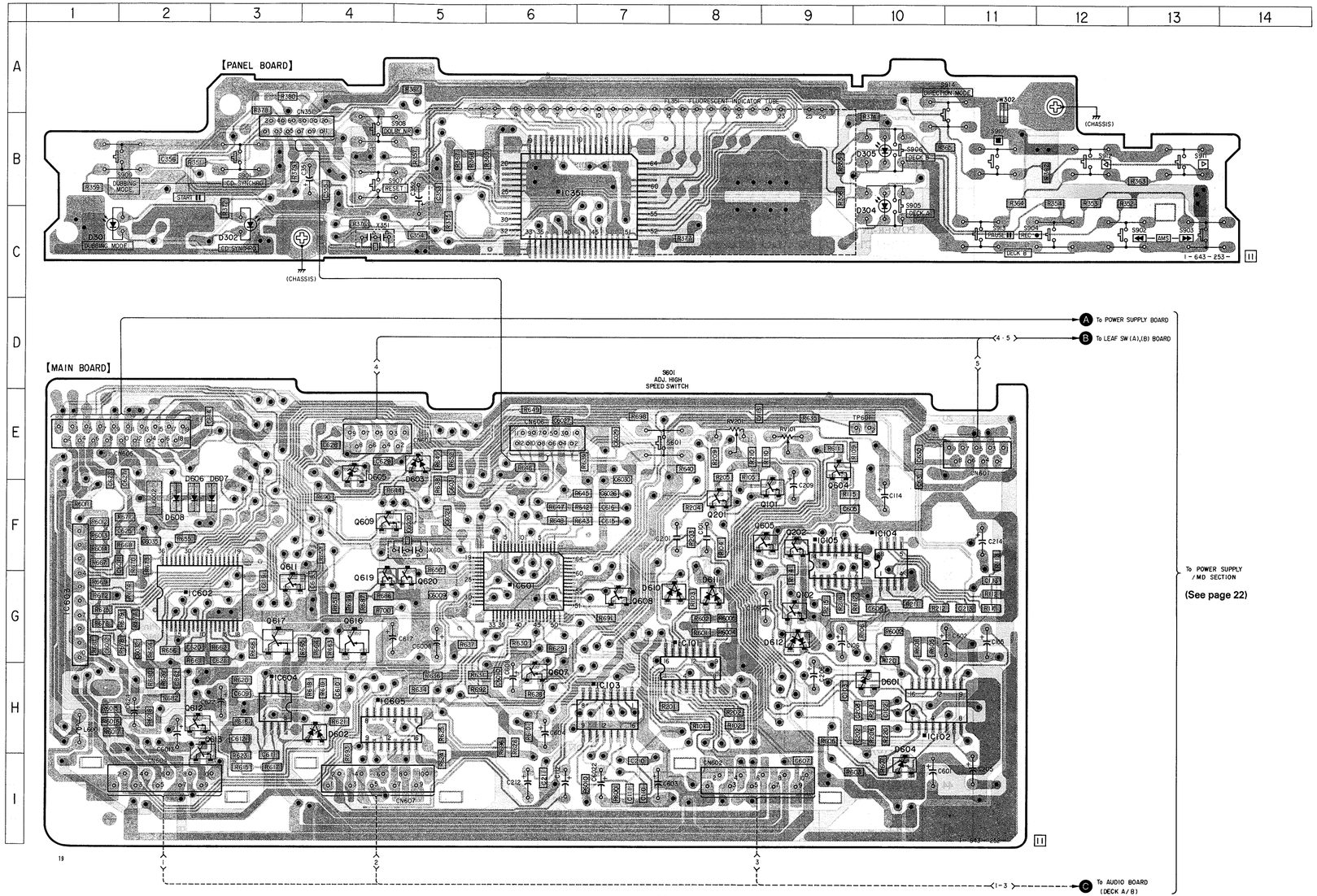
– Canadian, Australian, E, Saudi Arabia Model –

(MAIN SECTION)

| Ref. No. | Location |
|---|---|
| D301 | C-1 |
| D302 | C-3 |
| D304 | C-10 |
| D305 | B-10 |
| D601 | H-10 |
| D602 | H-4 |
| D603 | E-5 |
| D604 | I-10 |
| D605 | E-4 |
| D606 | F-2 |
| D607 | F-3 |
| D608 | F-2 |
| D610 | G-8 |
| D611 | G-8 |
| D612 | G-9 |
| IC101 | G-8 |
| IC102 | H-10 |
| IC103 | H-7 |
| IC104 | F-10 |
| IC105 | F-9 |
| IC351 | B-6 |
| IC601 | G-6 |
| IC602 | G-2 |
| IC603 | G-1 |
| IC604 | H-3 |
| IC605 | H-4 |
| Q101 | F-9 |
| Q102 | G-9 |
| Q201 | F-8 |
| Q202 | F-9 |
| Q604 | E-9 |
| Q605 | F-9 |
| Q607 | H-6 |
| Q608 | G-7 |
| Q609 | F-4 |
| Q611 | G-3 |
| Q612 | H-2 |
| Q613 | H-2 |
| Q616 | G-4 |
| Q617 | G-3 |
| Q619 | G-4 |
| Q620 | G-5 |

**Notes on printed wiring boards:**

- ○——: Indicated a lead wire mounted on the component side
- ■ : Parts mounted on the conductor side
- ● : Through hole
- ▒▒ : Pattern from the side which enables seeing
- ▒▒ : Pattern of the rear side



## 5-12. PIN FUNCTIONS

### IC351 display microprocessor HD614023-FA93

Fluorescent lamp indicator is activated by receiving data from IC601 (system controller).

| Pin No. | Pin Name | I/O | Description |
|---|---|---|---|
| 1-11 | S10-S0 | O | FL indicator tube (FL351) segment output |
| 12 | | | Not used. (+5.6 V) |
| 13 | VDISP | — | Power supply for activating the FL indicator tube (–20 V) |
| 14, 15 | | | Not used. (GND) |
| 16 | SYNC | I | Interrupt input. Data transmission from IC601 (system controller) is checked. |
| 17 | INT | I | Not used. (GND) |
| 18-25 | | I | Not used. (GND) |
| 26 | Vcc | — | Power supply terminal (+5.6 V) |
| 27 | CLK | I | Data transmission clock input from IC601 (system controller) |
| 28 | DATA | I | Serial data input from IC601 (system controller) |
| 29 | SYNC | I | Sync signal input which indicates the first byte of data sent from IC601 (system controller) |
| 30 | | | Not used. (GND) |
| 31 | KEY A | O | LED (D304) light output in the DECK A. |
| 32 | KEY B | O | LED (D305) light output in the DECK B. |
| 33 | HIGH DUB | O | LED (D301) light output in the high speed dubbing mode. |
| 34 | NORM DUB | O | LED (D301) light output in the normal speed dubbing mode. |
| 35 | CD SYNC | O | LED (D302) light output in the CD sync mode. |
| 36-38 | | | Not used. (GND) |
| 39 | FLCHECK | I | All the FL indicator tubes are lit when this port is set to "L". (Normally +5.6 V) |
| 40-42 | | | Not used. (GND) |
| 43 | RESET | I | Reset input from IC601 (system controller). "L": Reset. |
| 44 | TEST | I | Not used. (+5.6 V) |
| 45 | OSC1 | I | Clock input (4.19 MHz) |
| 46 | OSC2 | O | Clock output |
| 47 | GND | — | Power supply terminal (GND) |
| 48-50 | | | Not used. (GND) |
| 51 | | | Not used. (Pull-up) |
| 52-57 | G0-G6 | O | FL indicator tube (FL351) grid output |
| 58-61 | | | Not used. (+5.6 V) |
| 62-64 | S13-S11 | O | FL indicator tube (FL351) segment output |

### IC601 system controller M50944-128FP

The system is wholly controlled by communication between IC351 (display microprocessor) and IC602 (mechanism controller).

| Pin No. | Pin Name | I/O | Description |
|---|---|---|---|
| 1 | KEY2 | I | Not used. (GND) |
| 2 | KEY1 | I | Not used. (GND) |
| 3 | SYNC | O | Sync signal output which indicates the first byte of data sent to IC351 (display microprocessor). |
| 4 | FL-SCK | O | Data transmission clock output to IC351 (display microprocessor). |
| 5 | FL-SO | O | Serial data output to IC351 (display microprocessor). |
| 6 | AU-BUS | O | Audio bus output. |
| 7 | AU-BUS | I | Audio bus input (negative edge). |
| 8 | POWER-IN | I | Power-off detection input. "L": Power OFF. |
| 9 | PB-SELECT | O | Deck A/B switch output in the playback mode. "L": deck B, "H": deck A. |
| 10 | AMS-SELECT | O | AMS amplifier input switch output |
| 11 | MD-REQ | I | Data request input from IC602 (mechanism controller) |
| 12 | MD-SCLK | O | Data transmission clock output to IC602 (mechanism controller) |
| 13 | MD-SO | O | Serial data output to IC602 (mechanism controller) |
| 14 | MD-SI | I | Serial data input from IC602 (mechanism controller) |
| 15 | | O | Not used. (GND) |
| 16 | RESET (MD) | O | IC602 (mechanism controller) reset signal output. |
| 17 | AU-BUS | I | Audio bus input (positive-edge) |
| 18 | RESET (DSP) | O | IC351 (display microprocessor) reset signal output. |
| 19 | GND | — | Power supply terminal. (GND) |
| 20 | RESET | I | System reset input. "L": Reset. |
| 21 | X-IN | I | Clock input (4 MHz) |
| 22 | X-OUT | O | Clock output |
| 23 | XC-IN | I | Not used. (GND) |
| 24 | XC-OUT | O | Not used. (open) |
| 25 | VSS | — | Power supply terminal (GND) |
| 26 | N. C. | | Not used. (open) |
| 27 | TEST | I | Electrical adjustment test mode setting input.<br>This set enters into the test mode when the power is on and it is set to "L". *1 |
| 28 | VAR SELECT | I | Not used. (pull-up) |
| 29 | METAL (B) | I | Metal switch (S83) input for deck B. "H": Metal. |
| 30 | 70 μ (B) | I | Chrome switch (S82) input for deck B. "L": Normal. |
| 31 | POWER-ON | O | Power on output terminal. "L": Power ON. |
| 32-35 | | | Note used. (GND) |
| 36 | 70 μ (A) | I | Chrome switch (S82) input for deck A. "L": Normal. |
| 37 | AMS IN | I | Signal input from the AMS amplifier. "H": Detected, "L": Not detected. |
| 38 | N. C. | | Not used. (GND) |
| 39 | | | Not used. (GND) |
| 40 | EQ-HIGH | O | REC equalizer characteristic switch output<br>"H": High speed, "L": Normal speed. |
| 41 | BIAS FADE | O | Not used. (GND) |
| 42 | BIAS (B) | O | Bias ON/OFF switch output. "H": OFF, "L": ON. |
| 43 | TYPE II (B) | O | Not used. (GND) |
| 44 | TYPE I (B) | O | Not used. (GND) |
| 45 | R. MUTE (B) | O | REC mute control output. "L": Mute ON, "H": Mute OFF. |
| 46 | RELAY (B) | O | Mechanism deck head switch control output. "L": ON. |
| 47 | DOLBY B | O | Dolby B/C switch control output. "L": Dolby C, "H": Dolby B. |
| 48 | DOLBY ON | O | Dolby ON/OFF switch control output. "L": ON, "H": OFF. |

| Pin No. | Pin Name | I/O | Description |
|---|---|---|---|
| 49 | REC/PB | O | Dolby amplifier REC/PB switch output. "L": REC, "H": PB. |
| 50 | | O | Not used. (open) |
| 51 | PB 70 μ | O | Playback equalizer characteristic switch output. "H": Normal, "L": Chrome or metal. |
| 52 | AMS/BS | O | Not used. |
| 53 | PASS | O | PASS amplifier switch output for LINE OUT. "L": PASS amplifier, "H": Through. |
| 54 | LINE-MUTE | O | Line mute control output. "L": MUTE OFF, "H": MUTE ON. |
| 55 | AVCC | — | Power supply terminal. (+5 V) |
| 56 | VCC | — | Power supply terminal. (+5 V) |
| 57 | AVSS | — | Power supply terminal. (GND) |
| 58 | V. REF | I | Reference voltage input for A/D input port (+5 V) |
| 59 | METER (R) | I | Level meter signal input (R-CH). Not used on this set. |
| 60 | METER (L) | I | Level meter signal input (L-CH). Not used on this set. |
| 61 | VOL DATA | I | Not used. (GND) |
| 62 | KEY5 | I | Not used. (GND) |
| 63 | KEY4 | I | Key input. (analog) *2 |
| 64 | KEY3 | I | Key input. (analog) *2 |

*1 Test mode

When the power is on and pin ㉗ is set to "L" (TP601 is shortened.), the set enters the electrical adjustment test mode and the followings can be available.

(1) High speed playback

When the S601 (in the main board) is turned ON in playback mode, high-speed playback mode is actuated.

(2) Source monitor

Recording signals can be monitored through the OUTPUT terminal (see page 4) because the line short is removed in recording.

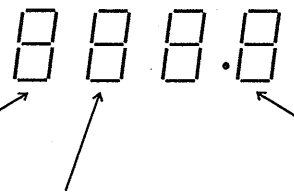
(3) Recording memory

Recording memory is set to ON when the tape counter is reset at the record start point.

(4) Mode display

The counter displays as shown below when the counter mode is set to the deck A and the deck A button of deck A/B switch is pressed, or when the counter mode is the B deck and the B deck button is pressed.

(5) When this terminal is set back to "H" after it is set to the test mode in "L" of the power-on mode, all the FL indicator tubes are lit. (The mechanism block continues to operate as before it is set to "H".)



Key input (Pin ㊹, KEY3)
"0": DUBBING MODE (S909)
"3": ■ (S910)
"4": ▷ (S911)
"5": ◁ (S912)
"6": ❙❙ (S913)
"8": DIRECTION MODE (S914)

Key input (Pin ㊸, KEY4)
"0": CD SYNCHRO (S901)
"1": ◀◀ (S902)
"2": ▶▶ (S903)
"3": ● REC (S904)
"4": KEY COUNTER B (S906)
"5": KEY COUNTER A (S905)
"6": COUNTER RESET (S907)
"7": DOLBY NR (S908)

AMS signal { "1": Component is detected. "0": Component is not detected.

*2 Key input (analog port)

| Voltage (V) / Input port | 0 | 0.3 | 0.7 | 1.2 | 1.7 | 2.3 | 2.8 | 4.0 |
|---|---|---|---|---|---|---|---|---|
| Pin ㊸, KEY4 | CD SYNCHRO | ◀◀ | ▶▶ | ● REC | KEY COUNTER B | KEY COUNTER A | COUNTER RESET | DOLBY NR |
| Pin ㊹, KEY3 | DUBBING MODE | | | ■ | ▷ | ◁ | ❙❙ PAUSE | DIRECTION MODE |

### IC602 mechanism controller M50925-482FP

The mechanism deck is controlled by receiving data from IC601 (system controller).

| Pin No. | Pin Name | I/O | Description |
|---|---|---|---|
| 1 | RESET | I | Reset input from IC601 (system controller). "L": Reset. |
| 2 | STOP-A | I | Deck A stop switch (S81) input. "H": Stop. |
| 3 | AVSS | — | Power supply terminal (GND) |
| 4 | Vref | I | A/D input port reference voltage input. |
| 5 | A/D. IN-B | I | Deck B leaf switch input (analog). *1 |
| 6 | A/D. IN-A | I | Deck A leaf switch input (analog). *1 |
| 7 | AVDD | — | Power supply terminal. (+5 V) |
| 8 | N. C. | | |
| 9 | T. REEL-B | I | Not used. (GND) |
| 10 | S. REEL-B | I | Deck B supply reel table sensor (IC81) |
| 11 | T. REEL-A | I | Not used. (GND) |
| 12 | S. REEL-A | I | Deck A supply reel table sensor (IC81) |
| 13, 14 | N. C. | | |
| 15 | CM. ON-A | O | Deck A capstan motor (M901A) ON/OFF control output. "L": OFF, "H": ON. |
| 16 | CM. ON-B | O | Deck B capstan motor (M901B) ON/OFF control output. "L": OFF, "H": ON. |
| 17 | GND | — | Power supply terminal. (GND) |
| 18 | VSS | — | Power supply terminal. (GND) |
| 19 | CM. H/L | O | Capstan motor (M901A, M901B) speed control switch output. "H": High speed, "L": Normal speed. |
| 20 | FWD-B | O | Deck B reel motor (M902B) control output. *2 The reel motor is activated by combining these three outputs. |
| 21 | FF-B | O | |
| 22 | TRIG-B | O | |
| 23 | FWD-A | O | Deck A reel motor (M902A) control output. *2 The reel motor is activated by combining these three outputs. |
| 24 | FF-A | O | |
| 25 | TRIG-A | O | |
| 26 | N. C. | | |
| 27 | S. REQ | O | Data request output to IC601 (system controller). |
| 28 | S. CLK | I | Data transmission clock input from IC601 (system controller). |
| 29 | S. OUT | O | Serial data output to IC601 (system controller). |
| 30 | S. IN | I | Serial data input from IC601 (system controller). |
| 31, 32 | N. C. | | |
| 33 | XOUT | O | Clock output. |
| 34 | XIN | I | Clock input. (4 MHz) |
| 35 | STOP-B | I | Deck B stop switch (S81) input. "H": Stop. |
| 36 | VDD | — | Power supply terminal. (+5 V) |

*1 HALF, REC safety tab leaf switch input

| Leaf switch \ Voltage | 1 | 1.9 | 2.8 | 3.9 | 5 |
|---|---|---|---|---|---|
| Half S86 | ON | | | | OFF |
| REC safety tab, side A S84 | OFF | ON | OFF | ON | OFF |
| REC safety tab, side B S85 | ON | ON | OFF | OFF | OFF |
| | ↑ | ↑ | ↑ | ↑ | ↑ |
| | REC available for only side B. | REC available for both sides A. | REC inhibit for both sides A and B. | REC available for only side A. | Tape is not set. |
| | Tape is set. | | | | |

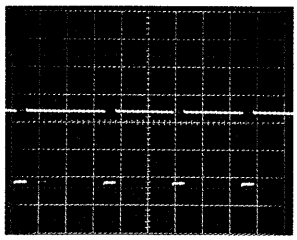
*2 Reel motor drive

| Output port \ Mode | FF | TRIG (kick) | STOP | FWD |
|---|---|---|---|---|
| Pin ㉑ and ㉔ FF | L | H | L | L |
| Pin ㉒ and ㉕ TRIG | H | L | L | H |
| Pin ⑳ and ㉓ FWD | H | H | L | L |

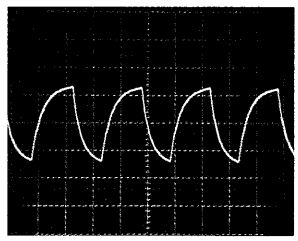
Reel motor drive amplifier output voltage

| Output | Voltage |
|---|---|
| TRIG | +6 V |
| FF.REW | –5 V |
| FWD | –3 V |

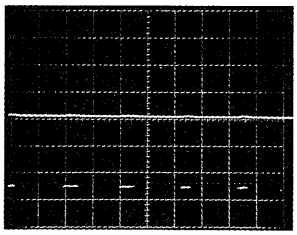
## 5-13. WAVEFORMS



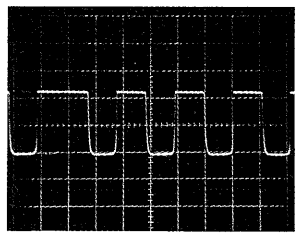
❶ IC601 ③pin (SYNC),
IC351 ㉙pin (SYNC)
5.2Vp-p, 2.5msec



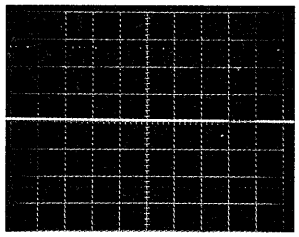
❻ IC602 ㉝pin (X OUT)
5.2Vp-p, 0.25µsec



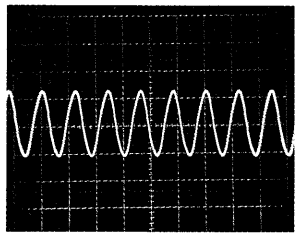
❷ IC601 ④pin (FL-SCK),
IC351 ㉗pin (CLK)
5.2Vp-p, 2.2msec



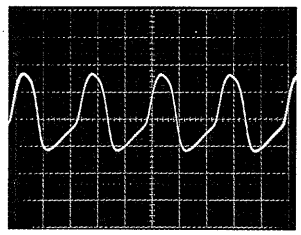
❼ IC602 ⑩,⑫ pin
(S-REEL-A/B)
FF/REW MODE
4.8Vp-p, 19msec



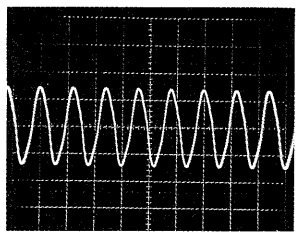
❸ IC601 ⑤pin (FL-SO),
IC351 ㉘pin (DATA)
5.4Vp-p, 26msec



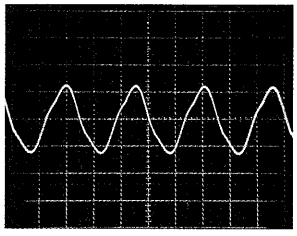
❽ IC351 ㊺pin (OSC1)
4.8Vp-p, 0.24µsec



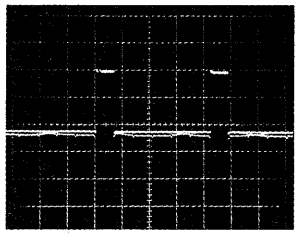
❹ IC601 ㉒pin (X OUT),
IC602 ㉞pin (X IN)
5.6Vp-p, 0.25µsec



❾ IC351 ㊻pin (OSC2)
5.8Vp-p, 0.24µsec



❺ IC601 ㉑pin (X IN)
5.2Vp-p, 0.25µsec



❿ IC351 ㊷-㊼pin
(G4-1, 5, 6)
24Vp-p, 8.4msec

# SECTION 6
# EXPLODED VIEWS

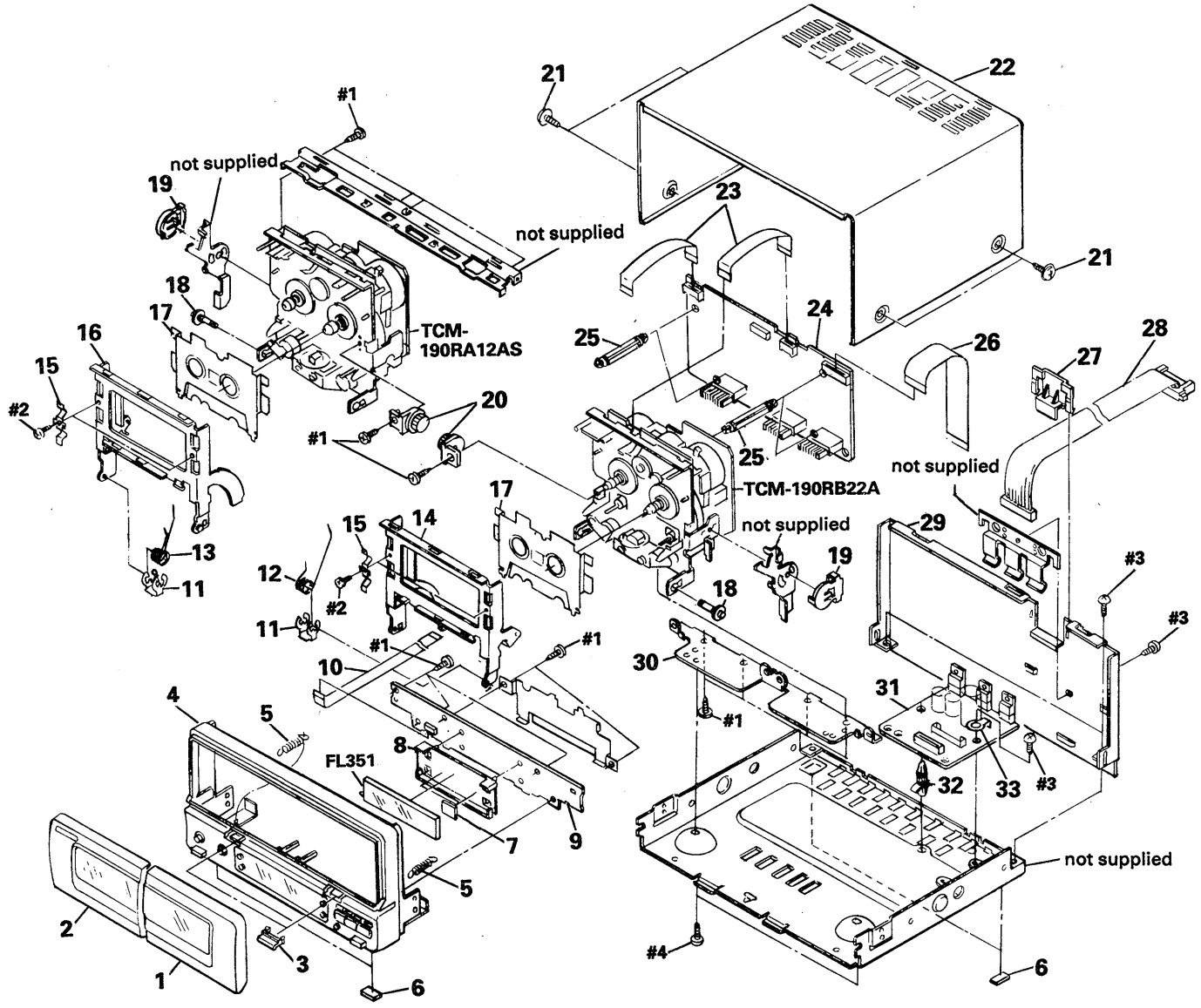
NOTE:

- -XX, -X mean standardized parts, so they may have some differences from the original one.
- Color Indication of Appearance Parts
  Example:
  KNOB,BALANCE(WHITE)...(RED)
  ↑ ↑
  Parts color Cabinet's color
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- The mechanical parts with no reference number in the exploded views are not supplied.
- Hardware(# mark) list is given in the last of this parts list.
- G : Germany Model
- AUS : Australian Model
- EA : Saudi Arabia Model
- EE : East European Model

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

Les composants identifiés par une marque ⚠ sont critiques pour la sécurité.
Ne les remplacer que par une pièce portant le numéro spécifié.

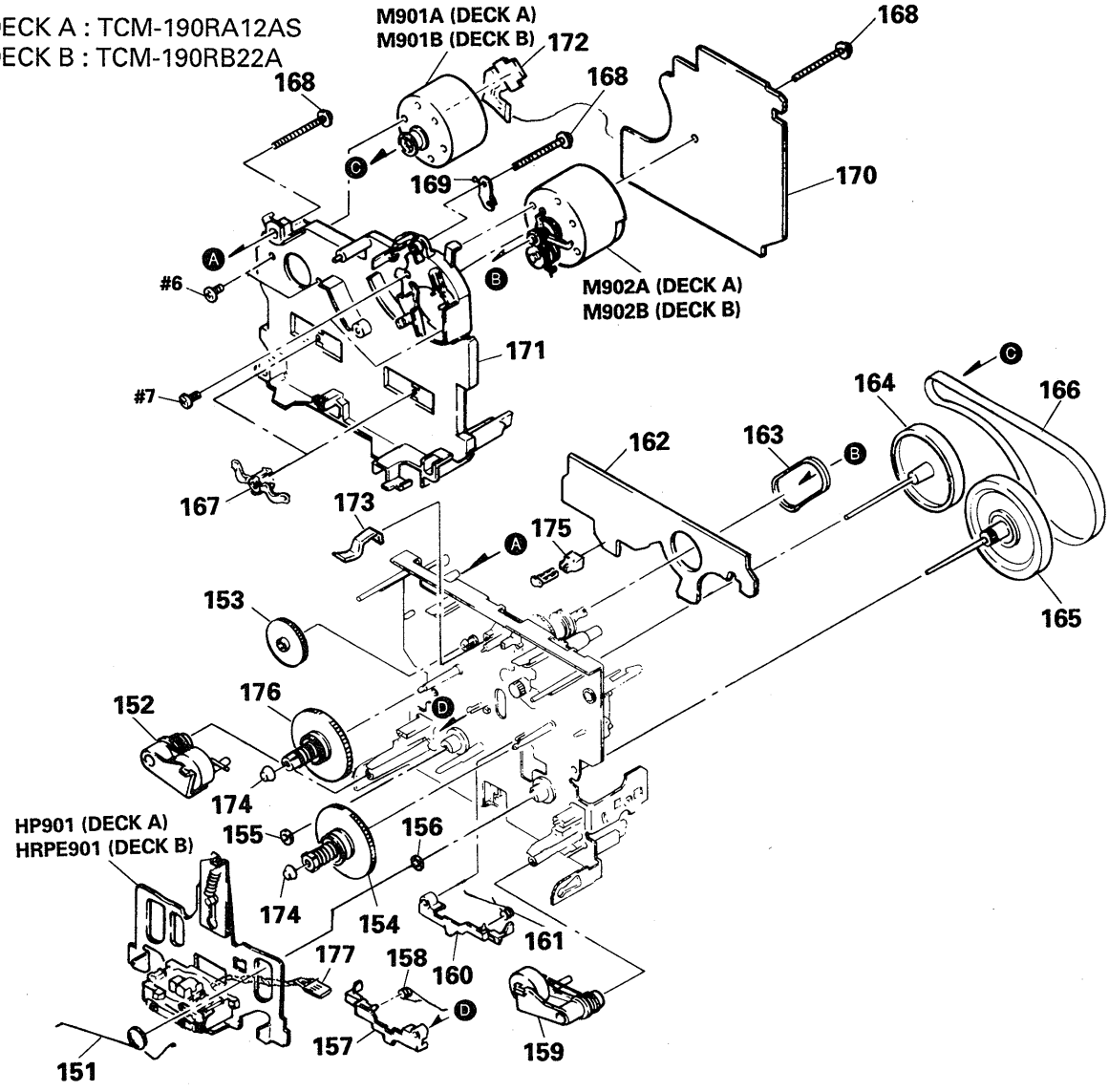
## 6-1. CHASSIS SECTION



| Ref. No. | Part No. | Description | Remarks |
|---|---|---|---|
| 1 | X-3364-805-1 | LID(B) ASSY, CASSETTE(Canadian, AUS, E, EA) | |
| 1 | X-3364-807-1 | LID(B) ASSY, CASSETTE(AEP, UK, G, EE) | |
| 2 | X-3364-804-1 | LID(A) ASSY, CASSETTE | |
| 3 | 3-377-868-01 | COVER (AZIMUTH) | |
| 4 | X-3364-803-1 | PANEL ASSY, FRONT | |
| 5 | 3-489-099-11 | SPRING, TENSION | |
| 6 | 4-930-336-11 | FOOT (FELT) | |
| * 7 | 4-932-810-11 | CUSHION (FL) | |
| * 8 | 3-367-839-01 | HOLDER, FL TUBE | |
| * 9 | A-2006-712-A | PANEL BOARD, COMPLETE(Canadian, AUS, E, EA) | |
| * 9 | A-2006-715-A | PANEL BOARD, COMPLETE (AEP, G, EE) | |
| * 9 | A-2006-792-A | PANEL BOARD, COMPLETE (UK) | |
| 10 | 1-690-892-11 | WIRE (FLAT TYPE) (12 CORE) | |
| 11 | 3-367-720-01 | RING (W), RETAINING | |
| 12 | 3-354-960-01 | SPRING (LOADING R), TORSION | |
| 13 | 3-354-959-01 | SPRING (LOADING L), TORSION | |
| 14 | X-3362-856-1 | HOLDER (R) ASSY, CASSETTE | |
| 15 | 3-340-137-01 | SPRING, CASSETTE RETAINER | |
| 16 | X-3362-857-1 | HOLDER (L) ASSY, CASSETTE | |
| 17 | 3-367-711-01 | RETAINER, CASSETTE | |
| 18 | 3-367-721-01 | SHAFT (FULCRUM SHAFT) | |
| 19 | 3-354-957-01 | JOINT (LOCK LEVER) | |
| 20 | 3-354-963-01 | DAMPER | |
| 21 | 3-704-366-01 | SCREW (CASE) (M3X8) | |
| * 22 | 4-951-094-11 | CASE | |
| 23 | 1-590-902-11 | WIRE, FLAT TYPE (9 CORE) | |
| * 24 | A-2006-711-A | MAIN BOARD, COMPLETE(Canadian, AUS, E, EA) | |
| * 24 | A-2006-714-A | MAIN BOARD, COMPLETE(AEP, G, EE) | |
| * 24 | A-2006-791-A | MAIN BOARD, COMPLETE(UK) | |
| * 25 | 3-682-419-21 | HOLDER, P.C.B | |
| 26 | 1-690-893-11 | WIRE (FLAT TYPE) (19 CORE) | |
| * 27 | 3-377-869-01 | CLAMP (CONNECTOR) | |
| 28 | 1-690-878-11 | CORD (WITH CONNECTOR) | |
| * 29 | 3-376-858-11 | PANEL, BACK | |
| * 30 | 3-367-724-01 | JOINT (LOWER) | |
| * 31 | A-2006-713-A | POWER BOARD, COMPLETE(Canadian, AUS, E, EA) | |
| * 31 | A-2006-716-A | POWER BOARD, COMPLETE(AEP, G, EE) | |
| * 31 | A-2006-793-A | POWER BOARD, COMPLETE(UK) | |
| * 32 | 3-346-265-11 | HOLDER, PC BOARD | |
| * 33 | 4-942-204-01 | PLATE, GROUND | |
| FL351 | 1-519-708-11 | INDICATOR, TUBE FLUORESCENT | |

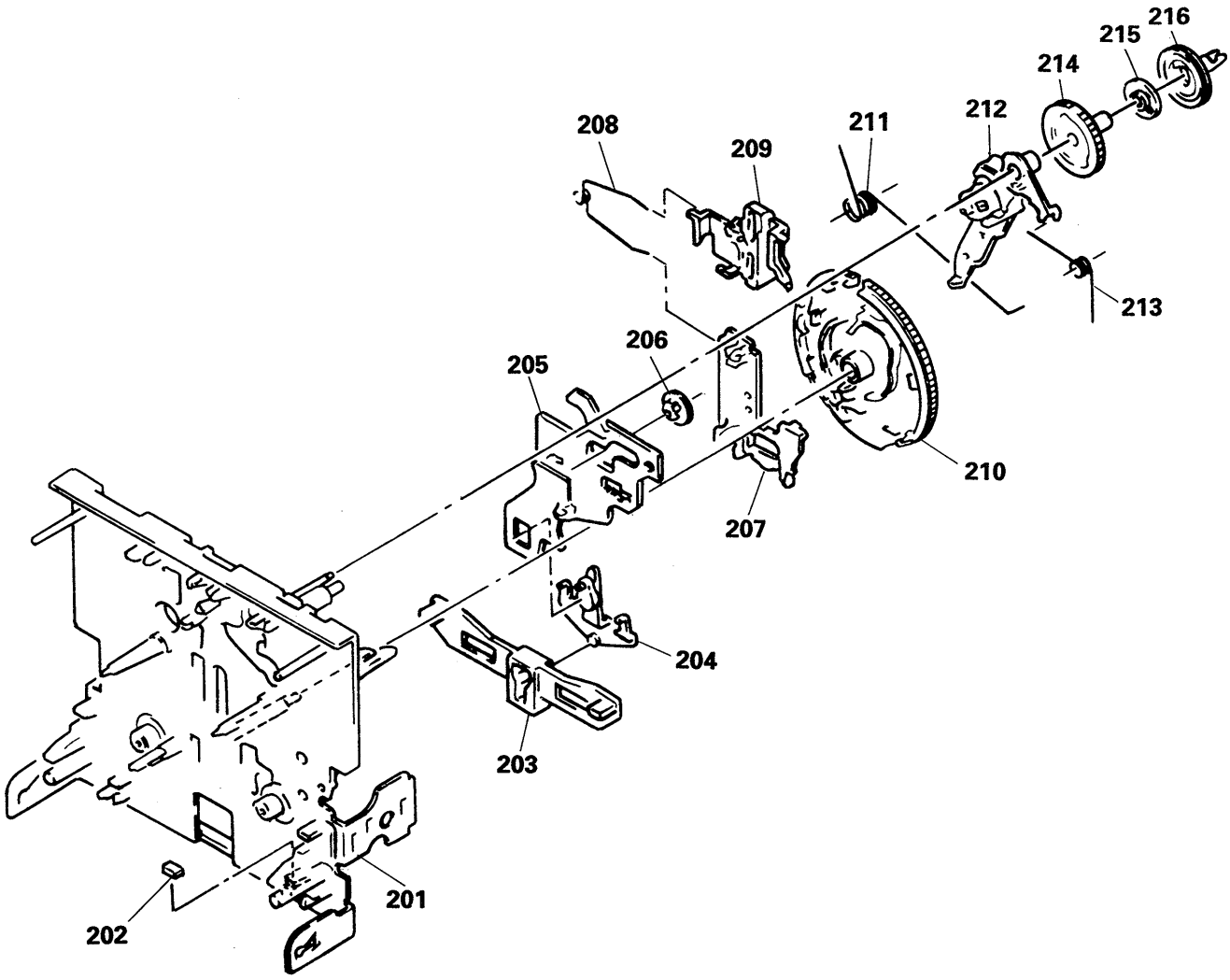
## 6-2. MECHANISM SECTION 1

DECK A : TCM-190RA12AS
DECK B : TCM-190RB22A




| Ref.No. | Part No. | Description | Remarks |
|---|---|---|---|
| 151 | 3-359-455-01 | SPRING, TORSION | |
| 152 | X-3359-409-1 | LEVER (PINCH LEVER REV) ASSY | |
| 153 | 3-359-424-01 | GEAR (REV GEAR) | |
| 154 | X-3359-404-1 | TABLE ASSY, REEL | |
| 155 | 3-356-714-01 | WASHER | |
| 156 | 3-356-713-01 | WASHER | |
| 157 | 3-354-956-01 | LEVER (EJ SAFTY LEVER R) | |
| 158 | 3-354-962-01 | SPRING (EJ SAFTY SPRING R) | |
| 159 | X-3359-408-1 | LEVER (PINCH LEVER FWD) ASSY | |
| 160 | 3-354-955-01 | LEVER (EJ SAFTY LEVER L) | |
| 161 | 3-354-961-01 | SPRING (EJ SAFTY SPRING L) | |
| * 162 | 1-634-841-14 | LEAF SW (A) BOARD (DECK A) | |
| * 162 | 1-634-841-14 | LEAF SW (B) BOARD (DECK B) | |
| 163 | 3-359-466-01 | BELT (FR), SQUARE | |
| 164 | X-3359-410-1 | FLYWHEEL (REV) ASSY | |
| 165 | X-3364-554-1 | FLYWHEEL (FWD) ASSY | |
| 166 | 3-359-417-01 | BELT (FLAT), CAPSTAN | |
| 167 | 3-575-321-00 | RETAINER, THRUST, CAPSTAN | |
| 168 | 3-359-414-01 | SCREW (+PTPWH 2X23) | |
| 169 | 3-359-450-01 | PLATE, GROUND | |
| * 170 | A-2006-399-A | AUDIO BOARD(RA12A), COMPLETE (DECK A) | |
| * 170 | A-2006-400-A | AUDIO BOARD(RB22A), COMPLETE (DECK B) | |
| * 171 | 3-359-436-01 | BASE (THRUST RETAINER),FITTING | |
| 172 | 1-638-983-11 | PC BOARD, MOTOR FLEXIBLE | |
| 173 | 3-359-430-01 | SPRING(CASSETTE RETAINER),LEAF | |
| 174 | 3-362-308-01 | CAP (REEL) | |
| 175 | 3-343-419-01 | HOLDER (S SENSOR A) | |
| 176 | X-3362-078-1 | TABLE ASSY (B), REEL | |
| * 177 | 1-690-419-11 | WIRE,LEAD(WITH CONNECTOR)4CORE | |
| HP901 | A-2003-958-B | BASE ASSY, HEAD (DECK A) | |
| HRPE901 | A-2003-838-A | BASE ASSY, HEAD (DECK B) | |
| M901A | X-3359-417-1 | CAPSTAN MOTOR ASSY (DECK A) | |
| M901B | X-3359-417-1 | CAPSTAN MOTOR ASSY (DECK B) | |
| M902A | X-3363-501-1 | REEL MOTOR ASSY (DECK A) | |
| M902B | X-3363-501-1 | REEL MOTOR ASSY (DECK B) | |

## 6-3. MECHANISM SECTION 2




| Ref. No. | Part No. | Description | Remarks |
|---|---|---|---|
| 201 | X-3363-790-1 | CHASSIS ASSY, MECHANICAL | |
| 202 | 3-359-469-01 | SPACER | |
| * 203 | 3-359-425-01 | SLIDER (REVERSE SLIDER) | |
| 204 | 3-359-426-01 | LEVER (REVERSE LEVER) | |
| * 205 | 3-359-415-01 | SLIDER (TRIGGER SLIDER) | |
| 206 | 3-359-448-01 | GEAR (TRIGGER) | |
| * 207 | 3-359-427-01 | SLIDER (LEVERSE SLIDER) | |
| 208 | 3-359-454-01 | SPRING, TORSION | |
| 209 | 3-359-429-01 | SLIDER (BRAKE PLATE) | |
| 210 | 3-359-420-01 | GEAR (CAM GEAR) | |
| 211 | 3-359-456-01 | SPRING(TRIGGER SPRING), TORSION | |
| 212 | X-3359-405-1 | LEVER (FR ARM) ASSY | |
| 213 | 3-359-453-01 | SPRING (FR ARM), TORSION | |
| 214 | 3-359-419-01 | GEAR (FR GEAR) | |
| 215 | 3-359-421-01 | CLUTCH (REEL DISK) | |
| 216 | 3-359-418-01 | PULLEY (FR PULLEY) | |

# SECTION 7
# ELECTRICAL PARTS LIST

**NOTE:**

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

Les composants identifiés par une marque ⚠ sont critiques pour la sécurité.
Ne les remplacer que par une pièce portant le numéro spécifié.

When indicating parts by reference number, please include the board name.

- G : Germany Model
- AUS : Australian Model
- EA : Saudi Arabia Model
- EE : East European Model

- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- -XX, -X mean standardized parts, so they may have some difference from the original one.
- RESISTORS
  All resistors are in ohms
  METAL : Metal-film resistor
  METAL OXIDE : Metal Oxide-film resistor
  F : nonflammable

- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- SEMICONDUCTORS
  In each case, u : μ, for example :
  uA...: μA..., uPA...: μPA...,
  uPB...: μPB..., uPC...: μPC...,
  uPD...: μPD...
- CAPACITORS
  uF : μF
- COILS
  uH : μH

## LEAF SW(A) | LEAF SW(B) | AUDIO(RA12A)

| Ref.No. | Part No. | Description | | | Remarks |
|---|---|---|---|---|---|
| * | 1-634-841-14 | LEAF SW(A) BOARD (DECK A) | | | |
| | | ********** | | | |
| | | < CONNECTOR > | | | |
| * CNP81 | 1-568-852-11 | SOCKET, CONNECTOR 9P | | | |
| | | < IC > | | | |
| IC81 | 8-719-710-03 | DI ODE | NJL5165K-B | | |
| | | < RESISTOR > | | | |
| R84 | 1-249-417-11 | CARBON | 1K | 5% 1/4W | |
| R85 | 1-249-408-11 | CARBON | 180 | 5% 1/4W | |
| | | < SWITCH > | | | |
| S81 | 1-571-958-11 | SWITCH, PUSH (1 KEY) (STOP) | | | |
| S82 | 1-571-281-21 | SWITCH, LEAF (70EQ) | | | |
| S86 | 1-571-281-21 | SWITCH, LEAF (HALF) | | | |
| ********** | | | | | |
| * | 1-634-841-14 | LEAF SW(B) BOARD (DECK B) | | | |
| | | ********** | | | |
| | | < CONNECTOR > | | | |
| * CNP81 | 1-568-852-11 | SOCKET, CONNECTOR 9P | | | |
| | | < IC > | | | |
| IC81 | 8-719-710-03 | DI ODE | NJL5165K-B | | |
| | | < RESISTOR > | | | |
| R81 | 1-249-414-11 | CARBON | 560 | 5% 1/4W | |
| R82 | 1-247-818-11 | CARBON | 300 | 5% 1/4W | |
| R83 | 1-247-834-11 | CARBON | 1.3K | 5% 1/4W | |
| R84 | 1-249-417-11 | CARBON | 1K | 5% 1/4W | |
| R85 | 1-249-408-11 | CARBON | 180 | 5% 1/4W | |
| | | < SWITCH > | | | |
| S81 | 1-571-958-11 | SWITCH, PUSH (1 KEY) (STOP) | | | |
| S82 | 1-571-281-21 | SWITCH, LEAF (70EQ) | | | |
| S83 | 1-571-281-21 | SWITCH, LEAF (METAL) | | | |
| S84 | 1-571-281-21 | SWITCH, LEAF (REC A) | | | |
| S85 | 1-571-281-21 | SWITCH, LEAF (REC B) | | | |
| S86 | 1-571-281-21 | SWITCH, LEAF (HALF) | | | |
| ********** | | | | | |
| * | A-2006-399-A | AUDIO BOARD(RA12A), COMPLETE (DECK A) | | | |
| | | ********** | | | |
| | | < CAPACITOR > | | | |
| C11 | 1-163-131-00 | CERAMIC CHIP | 390PF | 5% 50V | |
| C12 | 1-136-157-00 | FILM | 0.022uF | 5% 50V | |
| C13 | 1-124-234-00 | ELECT | 22uF | 20% 16V | |
| C18 | 1-163-117-00 | CERAMIC CHIP | 100PF | 5% 50V | |
| C21 | 1-163-131-00 | CERAMIC CHIP | 390PF | 5% 50V | |
| C22 | 1-136-157-00 | FILM | 0.022uF | 5% 50V | |
| C23 | 1-124-234-00 | ELECT | 22uF | 20% 16V | |
| C28 | 1-163-117-00 | CERAMIC CHIP | 100PF | 5% 50V | |
| C31 | 1-124-234-00 | ELECT | 22uF | 20% 16V | |
| C32 | 1-124-234-00 | ELECT | 22uF | 20% 16V | |
| C72 | 1-124-499-11 | ELECT, NONPOLAR | 1uF | 20% 50V | |
| | | < CONNECTOR > | | | |
| * CNJ31 | 1-580-782-11 | CONNECTOR, BOARD TO BOARD | | | |
| * CNJ72 | 1-580-411-11 | SOCKET, CONNECTOR 4P | | | |
| * CNP32 | 1-580-772-11 | PIN, CONNECTOR (PC BOARD) 4P | | | |
| * CNP71 | 1-564-719-11 | PIN, CONNECTOR (SMALL TYPE) 3P | | | |
| | | < IC > | | | |
| IC31 | 8-759-106-02 | IC uPC4570G2 | | | |
| | | < JUMPER WIRE > | | | |
| JW1 | 1-216-295-00 | METAL CHIP | 0 | 5% 1/10W | |
| JW51 | 1-216-296-00 | METAL CHIP | 0 | 5% 1/8W | |
| JW52 | 1-216-296-00 | METAL CHIP | 0 | 5% 1/8W | |
| JW53 | 1-216-296-00 | METAL CHIP | 0 | 5% 1/8W | |
| JW54 | 1-216-296-00 | METAL CHIP | 0 | 5% 1/8W | |
| | | < TRANSISTOR > | | | |
| Q71 | 8-729-602-36 | TRANSISTOR | 2SA1602-F | | |

# AUDIO(RA12A) | AUDIO(RB22A)

| Ref.No. | Part No. | Description | | | Remarks |
|---|---|---|---|---|---|
| | | < RESISTOR > | | | |
| R11 | 1-216-099-00 | METAL CHIP | 120K | 5% 1/10W | |
| R12 | 1-216-025-00 | METAL CHIP | 100 | 5% 1/10W | |
| R13 | 1-216-100-00 | METAL GLAZE | 130K | 5% 1/10W | |
| R14 | 1-216-067-00 | METAL CHIP | 5.6K | 5% 1/10W | |
| R21 | 1-216-099-00 | METAL CHIP | 120K | 5% 1/10W | |
| R22 | 1-216-025-00 | METAL CHIP | 100 | 5% 1/10W | |
| R23 | 1-216-100-00 | METAL GLAZE | 130K | 5% 1/10W | |
| R24 | 1-216-067-00 | METAL CHIP | 5.6K | 5% 1/10W | |
| R31 | 1-216-033-00 | METAL CHIP | 220 | 5% 1/10W | |
| R32 | 1-216-033-00 | METAL CHIP | 220 | 5% 1/10W | |
| R71 | 1-216-082-00 | METAL GLAZE | 24K | 5% 1/10W | |
| R72 | 1-216-081-00 | METAL CHIP | 22K | 5% 1/10W | |
| R73 | 1-216-089-00 | METAL CHIP | 47K | 5% 1/10W | |
| R74 | 1-216-089-00 | METAL CHIP | 47K | 5% 1/10W | |
| | | < VARIABLE RESISTOR > | | | |
| RV11 | 1-238-012-11 | RES, ADJ, CARBON 1K (PB LEVEL L) | | | |
| RV21 | 1-238-012-11 | RES, ADJ, CARBON 1K (PB LEVEL R) | | | |
| RV71 | 1-238-016-11 | RES, ADJ, CARBON 10K (NORMAL SPEED) | | | |
| RV72 | 1-238-016-11 | RES, ADJ, CARBON 10K (HIGH SPEED) | | | |
| ********** | | | | | |
| * | A-2006-400-A | AUDIO BOARD(RB22A), COMPLETE (DECK B) | | | |
| | | ********** | | | |
| | | < CAPACITOR > | | | |
| C11 | 1-163-131-00 | CERAMIC CHIP | 390PF | 5% 50V | |
| C12 | 1-136-157-00 | FILM | 0.022uF | 5% 50V | |
| C13 | 1-124-234-00 | ELECT | 22uF | 20% 16V | |
| C14 | 1-136-273-91 | FILM | 75PF | 5% 630V | |
| C15 | 1-164-080-11 | CERAMIC | 390PF | 10% 50V | |
| C17 | 1-163-103-00 | CERAMIC CHIP | 27PF | 5% 50V | |
| C18 | 1-163-117-00 | CERAMIC CHIP | 100PF | 5% 50V | |
| C21 | 1-163-131-00 | CERAMIC CHIP | 390PF | 5% 50V | |
| C22 | 1-136-157-00 | FILM | 0.022uF | 5% 50V | |
| C23 | 1-124-234-00 | ELECT | 22uF | 20% 16V | |
| C24 | 1-136-273-91 | FILM | 75PF | 5% 630V | |
| C25 | 1-164-080-11 | CERAMIC | 390PF | 10% 50V | |
| C27 | 1-163-103-00 | CERAMIC CHIP | 27PF | 5% 50V | |
| C28 | 1-163-117-00 | CERAMIC CHIP | 100PF | 5% 50V | |
| C31 | 1-124-234-00 | ELECT | 22uF | 20% 16V | |
| C32 | 1-124-234-00 | ELECT | 22uF | 20% 16V | |
| C33 | 1-124-234-00 | ELECT | 22uF | 20% 16V | |
| C51 | 1-163-019-00 | CERAMIC CHIP | 0.0068uF | 10% 50V | |
| C52 | 1-163-019-00 | CERAMIC CHIP | 0.0068uF | 10% 50V | |
| C53 | 1-163-022-00 | CERAMIC CHIP | 0.012uF | 10% 50V | |
| C54 | 1-136-559-11 | FILM | 0.0047uF | 5% 630V | |
| C56 | 1-164-505-11 | CERAMIC CHIP | 2.2uF | 16V | |
| C57 | 1-164-346-11 | CERAMIC CHIP | 1uF | 16V | |
| C58 | 1-163-024-00 | CERAMIC CHIP | 0.018uF | 10% 50V | |
| C72 | 1-124-499-11 | ELECT, NONPOLAR | 1uF | 20% 50V | |
| | | < CONNECTOR > | | | |
| * CNJ31 | 1-580-782-11 | CONNECTOR, BOARD TO BOARD | | | |
| * CNJ33 | 1-580-782-11 | CONNECTOR, BOARD TO BOARD | | | |
| * CNJ72 | 1-580-411-11 | SOCKET, CONNECTOR 4P | | | |
| * CNP32 | 1-580-781-11 | PIN, CONNECTOR (PC BOARD) 7P | | | |
| * CNP71 | 1-564-719-11 | PIN, CONNECTOR (SMALL TYPE) 3P | | | |
| | | < DIODE > | | | |
| D31 | 8-719-988-62 | DIODE 1SS355 | | | |
| | | < IC > | | | |
| IC31 | 8-759-106-02 | IC uPC4570G2 | | | |
| | | < JUMPER WIRE > | | | |
| JW1 | 1-216-296-00 | METAL CHIP | 0 | 5% 1/8W | |
| JW2 | 1-216-295-00 | METAL CHIP | 0 | 5% 1/10W | |
| JW3 | 1-216-295-00 | METAL CHIP | 0 | 5% 1/10W | |
| JW4 | 1-216-295-00 | METAL CHIP | 0 | 5% 1/10W | |
| JW5 | 1-216-295-00 | METAL CHIP | 0 | 5% 1/10W | |
| JW6 | 1-216-295-00 | METAL CHIP | 0 | 5% 1/10W | |
| JW7 | 1-216-295-00 | METAL CHIP | 0 | 5% 1/10W | |
| JW52 | 1-216-296-00 | METAL CHIP | 0 | 5% 1/8W | |
| JW53 | 1-216-296-00 | METAL CHIP | 0 | 5% 1/8W | |
| JW54 | 1-216-296-00 | METAL CHIP | 0 | 5% 1/8W | |
| JW55 | 1-216-296-00 | METAL CHIP | 0 | 5% 1/8W | |
| JW56 | 1-216-296-00 | METAL CHIP | 0 | 5% 1/8W | |
| JW57 | 1-216-296-00 | METAL CHIP | 0 | 5% 1/8W | |
| JW58 | 1-216-296-00 | METAL CHIP | 0 | 5% 1/8W | |
| JW59 | 1-216-296-00 | METAL CHIP | 0 | 5% 1/8W | |
| JW60 | 1-216-296-00 | METAL CHIP | 0 | 5% 1/8W | |
| JW61 | 1-216-296-00 | METAL CHIP | 0 | 5% 1/8W | |
| | | < COIL > | | | |
| L11 | 1-410-780-11 | INDUCTOR | 27mH | | |
| L21 | 1-410-780-11 | INDUCTOR | 27mH | | |
| | | < TRANSISTOR > | | | |
| Q51 | 8-729-808-01 | TRANSISTOR | 2SD1622-S | | |
| Q52 | 8-729-808-01 | TRANSISTOR | 2SD1622-S | | |
| Q53 | 8-729-808-01 | TRANSISTOR | 2SD1622-S | | |
| Q71 | 8-729-602-36 | TRANSISTOR | 2SA1602-F | | |
| | | < RESISTOR > | | | |
| R11 | 1-216-099-00 | METAL CHIP | 120K | 5% 1/10W | |
| R12 | 1-216-025-00 | METAL CHIP | 100 | 5% 1/10W | |
| R13 | 1-216-100-00 | METAL GLAZE | 130K | 5% 1/10W | |

When indicating parts by reference number, please include the board name.

# AUDIO(RB22A) | MAIN

| Ref. No. | Part No. | Description | | | | Remarks |
|---|---|---|---|---|---|---|
| R14 | 1-216-067-00 | METAL CHIP | 5.6K | 5% | 1/10W | |
| R15 | 1-249-430-11 | CARBON | 12K | 5% | 1/4W | |
| R21 | 1-216-099-00 | METAL CHIP | 120K | 5% | 1/10W | |
| R22 | 1-216-025-00 | METAL CHIP | 100 | 5% | 1/10W | |
| R23 | 1-216-100-00 | METAL GLAZE | 130K | 5% | 1/10W | |
| R24 | 1-216-067-00 | METAL CHIP | 5.6K | 5% | 1/10W | |
| R25 | 1-249-430-11 | CARBON | 12K | 5% | 1/4W | |
| R31 | 1-216-033-00 | METAL CHIP | 220 | 5% | 1/10W | |
| R32 | 1-216-033-00 | METAL CHIP | 220 | 5% | 1/10W | |
| R41 | 1-249-393-11 | CARBON | 10 | 5% | 1/4W | |
| R42 | 1-249-393-11 | CARBON | 10 | 5% | 1/4W | |
| R51 | 1-216-075-00 | METAL CHIP | 12K | 5% | 1/10W | |
| R52 | 1-216-075-00 | METAL CHIP | 12K | 5% | 1/10W | |
| R53 | 1-216-073-00 | METAL CHIP | 10K | 5% | 1/10W | |
| R54 | 1-216-309-00 | METAL CHIP | 5.6 | 5% | 1/10W | |
| R55 | 1-216-309-00 | METAL CHIP | 5.6 | 5% | 1/10W | |
| R56 | 1-216-298-00 | METAL CHIP | 2.2 | 5% | 1/10W | |
| R71 | 1-216-082-00 | METAL GLAZE | 24K | 5% | 1/10W | |
| R72 | 1-216-081-00 | METAL CHIP | 22K | 5% | 1/10W | |
| R73 | 1-216-089-00 | METAL CHIP | 47K | 5% | 1/10W | |
| R74 | 1-216-089-00 | METAL CHIP | 47K | 5% | 1/10W | |
| | | < VARIABLE RESISTOR > | | | | |
| RV11 | 1-238-012-11 | RES, ADJ, CARBON | 1K | | (PB LEVEL L) | |
| RV12 | 1-238-551-11 | RES, ADJ, CARBON | 220K | | (REC BIAS L) | |
| RV21 | 1-238-012-11 | RES, ADJ, CARBON | 1K | | (PB LEVEL R) | |
| RV22 | 1-238-551-11 | RES, ADJ, CARBON | 220K | | (REC BIAS R) | |
| RV71 | 1-238-016-11 | RES, ADJ, CARBON | 10K | | (NORMAL SPEED) | |
| RV72 | 1-238-016-11 | RES, ADJ, CARBON | 10K | | (HIGH SPEED) | |
| | | < RELAY > | | | | |
| RY31 | 1-515-726-11 | RELAY | | | | |
| | | < TRANSFORMER > | | | | |
| T51 | 1-406-419-11 | COIL, BIAS OSCILLATION | | | | |
| ********** | | | | | | |
| * | A-2006-711-A | MAIN BOARD, COMPLETE | | | | (Canadian, AUS, E, EA) |
| * | A-2006-714-A | MAIN BOARD, COMPLETE | | | | (AEP, G, EE) |
| * | A-2006-791-A | MAIN BOARD, COMPLETE | | | | (UK) |
| | | ********** | | | | |
| | | < CAPACITOR > | | | | |
| C101 | 1-136-157-00 | FILM | 0.022uF | 5% | 50V | |
| C102 | 1-164-161-11 | CERAMIC CHIP | 0.0022uF | 10% | 100V | (AEP, UK, G, EE) |
| C102 | 1-163-141-00 | CERAMIC CHIP | 0.001uF | 5% | 50V | (Canadian, AUS, E, EA) |
| C103 | 1-163-141-00 | CERAMIC CHIP | 0.001uF | 5% | 50V | |
| C104 | 1-130-475-00 | MYLAR | 0.0022uF | 5% | 50V | (AEP, UK, G, EE) |
| C105 | 1-130-475-00 | MYLAR | 0.0022uF | 5% | 50V | (AEP, UK, G, EE) |
| C105 | 1-131-587-11 | TANTALUM | 0.68uF | 5% | 35V | (Canadian, AUS, E, EA) |
| C106 | 1-126-059-11 | ELECT | 10uF | 20% | 50V | |
| C107 | 1-136-174-00 | FILM | 0.56uF | 5% | 50V | (AEP, UK, G, EE) |
| C108 | 1-136-171-00 | FILM | 0.33uF | 5% | 50V | (AEP, UK, G, EE) |
| C109 | 1-126-059-11 | ELECT | 10uF | 20% | 50V | |
| C110 | 1-163-117-00 | CERAMIC CHIP | 100PF | 5% | 50V | |
| C111 | 1-164-005-11 | CERAMIC CHIP | 0.47uF | | 25V | |
| C112 | 1-126-300-11 | ELECT | 0.47uF | 20% | 50V | |
| C113 | 1-163-117-00 | CERAMIC CHIP | 100PF | 5% | 50V | |
| C114 | 1-126-059-11 | ELECT | 10uF | 20% | 50V | |
| C201 | 1-136-157-00 | FILM | 0.022uF | 5% | 50V | |
| C202 | 1-164-161-11 | CERAMIC CHIP | 0.0022uF | 10% | 100V | (AEP, UK, G, EE) |
| C202 | 1-163-141-00 | CERAMIC CHIP | 0.001uF | 5% | 50V | (Canadian, AUS, E, EA) |
| C203 | 1-163-141-00 | CERAMIC CHIP | 0.001uF | 5% | 50V | |
| C204 | 1-130-475-00 | MYLAR | 0.0022uF | 5% | 50V | (AEP, UK, G, EE) |
| C205 | 1-130-475-00 | MYLAR | 0.0022uF | 5% | 50V | (AEP, UK, G, EE) |
| C205 | 1-131-587-11 | TANTALUM | 0.68uF | 5% | 35V | (Canadian, AUS, E, EA) |
| C206 | 1-126-059-11 | ELECT | 10uF | 20% | 50V | |
| C207 | 1-136-174-00 | FILM | 0.56uF | 5% | 50V | (AEP, UK, G, EE) |
| C208 | 1-136-171-00 | FILM | 0.33uF | 5% | 50V | (AEP, UK, G, EE) |
| C209 | 1-126-059-11 | ELECT | 10uF | 20% | 50V | |
| C210 | 1-163-117-00 | CERAMIC CHIP | 100PF | 5% | 50V | |
| C211 | 1-164-005-11 | CERAMIC CHIP | 0.47uF | | 25V | |
| C212 | 1-126-300-11 | ELECT | 0.47uF | 20% | 50V | |
| C213 | 1-163-117-00 | CERAMIC CHIP | 100PF | 5% | 50V | |
| C214 | 1-126-059-11 | ELECT | 10uF | 20% | 50V | |
| C601 | 1-126-059-11 | ELECT | 10uF | 20% | 50V | (AEP, UK, G, EE) |
| C601 | 1-124-994-11 | ELECT | 100uF | 20% | 10V | (Canadian, AUS, E, EA) |
| C602 | 1-126-059-11 | ELECT | 10uF | 20% | 50V | (AEP, UK, G, EE) |
| C602 | 1-124-994-11 | ELECT | 100uF | 20% | 10V | (Canadian, AUS, E, EA) |
| C603 | 1-126-059-11 | ELECT | 10uF | 20% | 50V | |
| C604 | 1-126-059-11 | ELECT | 10uF | 20% | 50V | |
| C605 | 1-164-232-11 | CERAMIC CHIP | 0.01uF | | 50V | |
| C606 | 1-164-232-11 | CERAMIC CHIP | 0.01uF | | 50V | |
| C607 | 1-164-346-11 | CERAMIC CHIP | 1uF | | 16V | |
| C608 | 1-126-161-11 | ELECT | 2.2uF | 20% | 50V | |
| C609 | 1-163-141-00 | CERAMIC CHIP | 0.001uF | 5% | 50V | |
| C610 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V | |
| C611 | 1-163-117-00 | CERAMIC CHIP | 100PF | 5% | 50V | |
| C612 | 1-162-568-11 | CERAMIC CHIP | 0.33uF | 10% | 16V | |
| C613 | 1-164-346-11 | CERAMIC CHIP | 1uF | | 16V | |
| C614 | 1-163-037-11 | CERAMIC CHIP | 0.022uF | 10% | 25V | |
| C615 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V | |
| C616 | 1-163-125-00 | CERAMIC CHIP | 220PF | 5% | 50V | |
| C617 | 1-126-101-11 | ELECT | 100uF | 20% | 16V | |
| C618 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V | |

When indicating parts by reference number, please include the board name.

# MAIN

| Ref. No. | Part No. | Description | | | Remarks |
|---|---|---|---|---|---|
| C619 | 1-163-141-00 | CERAMIC CHIP | 0.001uF | 5% | 50V |
| C620 | 1-164-232-11 | CERAMIC CHIP | 0.01uF | | 50V |
| C621 | 1-164-232-11 | CERAMIC CHIP | 0.01uF | | 50V |
| C622 | 1-124-994-11 | ELECT | 100uF | 20% | 10V |
| C623 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C624 | 1-124-994-11 | ELECT | 100uF | 20% | 10V |
| C625 | 1-163-141-00 | CERAMIC CHIP | 0.001uF | 5% | 50V |
| C626 | 1-163-141-00 | CERAMIC CHIP | 0.001uF | 5% | 50V |
| C627 | 1-163-037-11 | CERAMIC CHIP | 0.022uF | 10% | 25V |
| C628 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C629 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C630 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C631 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C862 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C6008 | 1-126-301-11 | ELECT | 1uF | 20% | 50V |
| C6009 | 1-164-232-11 | CERAMIC CHIP | 0.01uF | | 50V |
| C6010 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C6011 | 1-163-129-00 | CERAMIC CHIP | 330PF | 5% | 50V |
| C6012 | 1-163-129-00 | CERAMIC CHIP | 330PF | 5% | 50V |
| C6013 | 1-126-023-11 | ELECT | 100uF | 20% | 16V |
| C6020 | 1-163-141-00 | CERAMIC CHIP | 0.001uF | 5% | 50V |
| C6021 | 1-163-141-00 | CERAMIC CHIP | 0.001uF | 5% | 50V |
| C6022 | 1-126-059-11 | ELECT | 10uF | 20% | 50V |
| C6026 | 1-163-125-00 | CERAMIC CHIP | 220PF | 5% | 50V |
| C6027 | 1-163-125-00 | CERAMIC CHIP | 220PF | 5% | 50V |
| C6029 | 1-163-141-00 | CERAMIC CHIP | 0.001uF | 5% | 50V |
| C6030 | 1-163-141-00 | CERAMIC CHIP | 0.001uF | 5% | 50V |
| C6031 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C6032 | 1-163-141-00 | CERAMIC CHIP | 0.001uF | 5% | 50V |
| C6035 | 1-163-037-11 | CERAMIC CHIP | 0.022uF | 10% | 25V |
| | | < CONNECTOR > | | | |
| CN601 | 1-573-101-11 | SOCKET, CONNECTOR 9P | | | |
| CN602 | 1-580-783-11 | CONNECTOR, BOARD TO BOARD | | | |
| CN603 | 1-573-101-11 | SOCKET, CONNECTOR 9P | | | |
| CN604 | 1-580-783-11 | CONNECTOR, BOARD TO BOARD | | | |
| * CN605 | 1-568-862-11 | SOCKET, CONNECTOR 19P | | | |
| CN606 | 1-568-795-11 | SOCKET, CONNECTOR 12P | | | |
| CN607 | 1-580-783-11 | CONNECTOR, BOARD TO BOARD | | | |
| | | < DIODE > | | | |
| D601 | 8-719-402-00 | DIODE | MA3091 (AEP, UK, G, EE) | | |
| D601 | 8-719-401-90 | DIODE | MA3082 (Canadian, AUS, E, EA) | | |
| D602 | 8-719-400-18 | DIODE | MA152WK | | |
| D603 | 8-719-400-18 | DIODE | MA152WK | | |
| D604 | 8-719-401-90 | DIODE | MA3082 (Canadian, AUS, E, EA) | | |
| D605 | 8-719-401-51 | DIODE | MA3056L | | |
| D606 | 8-719-210-33 | DIODE | EC10DS2 | | |
| D607 | 8-719-210-33 | DIODE | EC10DS2 | | |
| D608 | 8-719-210-33 | DIODE | EC10DS2 | | |
| D610 | 8-719-400-18 | DIODE | MA152WK | | |
| D611 | 8-719-400-18 | DIODE | MA152WK | | |
| D612 | 8-719-400-16 | DIODE | MA153 | | |
| | | < IC > | | | |
| IC101 | 8-759-300-71 | IC | HD14053BFP | | |
| IC102 | 8-752-037-90 | IC | CXA1331M | (AEP, UK, G, EE) | |
| IC102 | 8-752-050-13 | IC | CXA1101M | (Canadian, AUS, E, EA) | |
| IC103 | 8-752-055-60 | IC | CXA1578M | | |
| IC104 | 8-759-996-43 | IC | RC4558PS | | |
| IC105 | 8-759-516-47 | IC | CD4066BCM | | |
| IC601 | 8-759-058-40 | IC | M50944-128FP | | |
| IC602 | 8-759-636-67 | IC | M50925-482FP | | |
| IC603 | 8-759-207-05 | IC | TA7272P | | |
| IC604 | 8-759-996-43 | IC | RC4558PS | | |
| IC605 | 8-759-516-41 | IC | CD4052BCM | | |
| | | < COIL > | | | |
| L6001 | 1-410-482-31 | INDUCTOR | 100uH | | |
| L6002 | 1-408-777-00 | INDUCTOR CHIP | 10uH | | |
| | | < TRANSISTOR > | | | |
| Q101 | 8-729-421-22 | TRANSISTOR | UN2211 | | |
| Q102 | 8-729-805-40 | TRANSISTOR | 2SC3900 | | |
| Q201 | 8-729-421-22 | TRANSISTOR | UN2211 | | |
| Q202 | 8-729-805-40 | TRANSISTOR | 2SC3900 | | |
| Q601 | 8-729-805-65 | TRANSISTOR | 2SA1344 | (AEP, UK, G, EE) | |
| Q602 | 8-729-805-65 | TRANSISTOR | 2SA1344 | (AEP, UK, G, EE) | |
| Q603 | 8-729-421-22 | TRANSISTOR | UN2211 | (AEP, UK, G, EE) | |
| Q604 | 8-729-805-65 | TRANSISTOR | 2SA1344 | | |
| Q605 | 8-729-805-69 | TRANSISTOR | 2SA1341 | | |
| Q607 | 8-729-805-65 | TRANSISTOR | 2SA1344 | | |
| Q608 | 8-729-805-65 | TRANSISTOR | 2SA1344 | | |
| Q609 | 8-729-421-22 | TRANSISTOR | UN2211 | | |
| Q611 | 8-729-805-65 | TRANSISTOR | 2SA1344 | | |
| Q612 | 8-729-421-22 | TRANSISTOR | UN2211 | | |
| Q613 | 8-729-421-22 | TRANSISTOR | UN2211 | | |
| Q616 | 8-729-820-86 | TRANSISTOR | 2SB1121-ST | | |
| Q617 | 8-729-820-86 | TRANSISTOR | 2SB1121-ST | | |
| Q619 | 8-729-602-21 | TRANSISTOR | 2SC4154 | | |
| Q620 | 8-729-602-21 | TRANSISTOR | 2SC4154 | | |
| | | < RESISTOR > | | | |
| R101 | 1-216-089-00 | METAL CHIP | 47K | 5% | 1/10W |
| R102 | 1-216-089-00 | METAL CHIP | 47K | 5% | 1/10W |
| R103 | 1-216-055-00 | METAL CHIP | 1.8K | 5% | 1/10W |
| R104 | 1-216-061-00 | METAL CHIP | 3.3K | 5% | 1/10W |
| R105 | 1-216-105-00 | METAL CHIP | 220K | 5% | 1/10W |
| R106 | 1-216-057-00 | METAL CHIP | 2.2K | 5% | 1/10W((AEP, UK, G, EE) |

When indicating parts by reference number, please include the board name.

## MAIN

| Ref. No. | Part No. | Description | | | | Remarks |
|---|---|---|---|---|---|---|
| R106 | 1-216-056-00 | METAL GLAZE | 2K | 5% | 1/10W | (Canadian, AUS, E, EA) |
| R107 | 1-216-082-00 | METAL GLAZE | 24K | 5% | 1/10W | (AEP, UK, G, EE) |
| R108 | 1-216-043-00 | METAL CHIP | 560 | 5% | 1/10W | (AEP, UK, G, EE) |
| R109 | 1-216-073-00 | METAL CHIP | 10K | 5% | 1/10W | (AEP, UK, G, EE) |
| R109 | 1-216-057-00 | METAL CHIP | 2.2K | 5% | 1/10W | (Canadian, AUS, E, EA) |
| R110 | 1-216-057-00 | METAL CHIP | 2.2K | 5% | 1/10W | |
| R111 | 1-216-097-00 | METAL CHIP | 100K | 5% | 1/10W | |
| R112 | 1-216-065-00 | METAL CHIP | 4.7K | 5% | 1/10W | |
| R113 | 1-216-089-00 | METAL CHIP | 47K | 5% | 1/10W | |
| R114 | 1-216-058-00 | METAL GLAZE | 2.4K | 5% | 1/10W | |
| R115 | 1-216-081-00 | METAL CHIP | 22K | 5% | 1/10W | |
| R120 | 1-216-085-00 | METAL CHIP | 33K | 5% | 1/10W | |
| R201 | 1-216-089-00 | METAL CHIP | 47K | 5% | 1/10W | |
| R202 | 1-216-089-00 | METAL CHIP | 47K | 5% | 1/10W | |
| R203 | 1-216-055-00 | METAL CHIP | 1.8K | 5% | 1/10W | |
| R204 | 1-216-061-00 | METAL CHIP | 3.3K | 5% | 1/10W | |
| R205 | 1-216-105-00 | METAL CHIP | 220K | 5% | 1/10W | |
| R206 | 1-216-057-00 | METAL CHIP | 2.2K | 5% | 1/10W | (AEP, UK, G, EE) |
| R206 | 1-216-056-00 | METAL GLAZE | 2K | 5% | 1/10W | (Canadian, AUS, E, EA) |
| R207 | 1-216-082-00 | METAL GLAZE | 24K | 5% | 1/10W | (AEP, UK, G, EE) |
| R208 | 1-216-043-00 | METAL CHIP | 560 | 5% | 1/10W | (AEP, UK, G, EE) |
| R209 | 1-216-073-00 | METAL CHIP | 10K | 5% | 1/10W | (AEP, UK, G, EE) |
| R209 | 1-216-057-00 | METAL CHIP | 2.2K | 5% | 1/10W | (Canadian, AUS, E, EA) |
| R210 | 1-216-057-00 | METAL CHIP | 2.2K | 5% | 1/10W | |
| R211 | 1-216-097-00 | METAL CHIP | 100K | 5% | 1/10W | |
| R212 | 1-216-065-00 | METAL CHIP | 4.7K | 5% | 1/10W | |
| R213 | 1-216-089-00 | METAL CHIP | 47K | 5% | 1/10W | |
| R214 | 1-216-058-00 | METAL GLAZE | 2.4K | 5% | 1/10W | |
| R215 | 1-216-081-00 | METAL CHIP | 22K | 5% | 1/10W | |
| R220 | 1-216-085-00 | METAL CHIP | 33K | 5% | 1/10W | |
| R601 | 1-216-081-00 | METAL CHIP | 22K | 5% | 1/10W | |
| R602 | 1-216-081-00 | METAL CHIP | 22K | 5% | 1/10W | |
| R603 | 1-216-057-00 | METAL CHIP | 2.2K | 5% | 1/10W | (AEP, UK, G, EE) |
| R603 | 1-216-073-00 | METAL CHIP | 10K | 5% | 1/10W | (Canadian, AUS, E, EA) |
| R605 | 1-216-081-00 | METAL CHIP | 22K | 5% | 1/10W | (AEP, UK, G, EE) |
| R605 | 1-216-089-00 | METAL CHIP | 47K | 5% | 1/10W | (Canadian, AUS, E, EA) |
| R606 | 1-216-081-00 | METAL CHIP | 22K | 5% | 1/10W | (AEP, UK, G, EE) |
| R606 | 1-216-089-00 | METAL CHIP | 47K | 5% | 1/10W | (Canadian, AUS, E, EA) |
| R607 | 1-216-081-00 | METAL CHIP | 22K | 5% | 1/10W | (AEP, UK, G, EE) |
| R607 | 1-216-073-00 | METAL CHIP | 10K | 5% | 1/10W | (Canadian, AUS, E, EA) |
| R608 | 1-216-049-00 | METAL CHIP | 1K | 5% | 1/10W | (AEP, UK, G, EE) |
| R608 | 1-216-088-00 | METAL CHIP | 43K | 5% | 1/10W | (Canadian, AUS, E, EA) |
| R609 | 1-216-083-00 | METAL CHIP | 27K | 5% | 1/10W | (AEP, UK, G, EE) |
| R610 | 1-216-082-00 | METAL GLAZE | 24K | 5% | 1/10W | |
| R611 | 1-216-081-00 | METAL CHIP | 22K | 5% | 1/10W | |
| R612 | 1-216-081-00 | METAL CHIP | 22K | 5% | 1/10W | |
| R615 | 1-216-057-00 | METAL CHIP | 2.2K | 5% | 1/10W | |
| R616 | 1-216-097-00 | METAL CHIP | 100K | 5% | 1/10W | |
| R617 | 1-216-097-00 | METAL CHIP | 100K | 5% | 1/10W | |
| R618 | 1-216-097-00 | METAL CHIP | 100K | 5% | 1/10W | |
| R619 | 1-216-065-00 | METAL CHIP | 4.7K | 5% | 1/10W | |
| R620 | 1-216-097-00 | METAL CHIP | 100K | 5% | 1/10W | |
| R621 | 1-216-065-00 | METAL CHIP | 4.7K | 5% | 1/10W | |
| R623 | 1-216-107-00 | METAL CHIP | 270K | 5% | 1/10W | |
| R624 | 1-216-037-00 | METAL CHIP | 330 | 5% | 1/10W | |
| R625 | 1-216-060-00 | METAL GLAZE | 3K | 5% | 1/10W | |
| R626 | 1-216-072-00 | METAL CHIP | 9.1K | 5% | 1/10W | |
| R628 | 1-216-073-00 | METAL CHIP | 10K | 5% | 1/10W | |
| R629 | 1-216-057-00 | METAL CHIP | 2.2K | 5% | 1/10W | |
| R630 | 1-216-081-00 | METAL CHIP | 22K | 5% | 1/10W | |
| R631 | 1-216-081-00 | METAL CHIP | 22K | 5% | 1/10W | |
| R634 | 1-216-081-00 | METAL CHIP | 22K | 5% | 1/10W | |
| R635 | 1-216-081-00 | METAL CHIP | 22K | 5% | 1/10W | |
| R636 | 1-216-081-00 | METAL CHIP | 22K | 5% | 1/10W | |
| R637 | 1-216-081-00 | METAL CHIP | 22K | 5% | 1/10W | |
| R638 | 1-216-081-00 | METAL CHIP | 22K | 5% | 1/10W | |
| R639 | 1-216-057-00 | METAL CHIP | 2.2K | 5% | 1/10W | |
| R640 | 1-216-057-00 | METAL CHIP | 2.2K | 5% | 1/10W | |
| R641 | 1-216-065-00 | METAL CHIP | 4.7K | 5% | 1/10W | |
| R642 | 1-216-089-00 | METAL CHIP | 47K | 5% | 1/10W | |
| R643 | 1-216-089-00 | METAL CHIP | 47K | 5% | 1/10W | |
| R644 | 1-216-025-00 | METAL CHIP | 100 | 5% | 1/10W | |
| R645 | 1-216-089-00 | METAL CHIP | 47K | 5% | 1/10W | |
| R646 | 1-216-081-00 | METAL CHIP | 22K | 5% | 1/10W | |
| R647 | 1-216-025-00 | METAL CHIP | 100 | 5% | 1/10W | |
| R648 | 1-216-025-00 | METAL CHIP | 100 | 5% | 1/10W | |
| R649 | 1-216-025-00 | METAL CHIP | 100 | 5% | 1/10W | |
| R650 | 1-216-121-00 | METAL CHIP | 1M | 5% | 1/10W | |
| R651 | 1-216-081-00 | METAL CHIP | 22K | 5% | 1/10W | |
| R652 | 1-216-081-00 | METAL CHIP | 22K | 5% | 1/10W | |
| R653 | 1-216-073-00 | METAL CHIP | 10K | 5% | 1/10W | |
| R654 | 1-216-073-00 | METAL CHIP | 10K | 5% | 1/10W | |
| R655 | 1-216-121-00 | METAL CHIP | 1M | 5% | 1/10W | |
| R656 | 1-216-073-00 | METAL CHIP | 10K | 5% | 1/10W | |
| R661 | 1-216-083-00 | METAL CHIP | 27K | 5% | 1/10W | |
| R662 | 1-216-083-00 | METAL CHIP | 27K | 5% | 1/10W | |
| R663 | 1-216-073-00 | METAL CHIP | 10K | 5% | 1/10W | |
| R664 | 1-216-045-00 | METAL CHIP | 680 | 5% | 1/10W | |
| R665 | 1-216-073-00 | METAL CHIP | 10K | 5% | 1/10W | |
| R666 | 1-216-045-00 | METAL CHIP | 680 | 5% | 1/10W | |
| R667 | 1-216-025-00 | METAL CHIP | 100 | 5% | 1/10W | |
| R668 | 1-216-090-00 | METAL CHIP | 51K | 5% | 1/10W | |
| R669 | 1-216-089-00 | METAL CHIP | 47K | 5% | 1/10W | |

When indicating parts by reference number, please include the board name.

# MAIN PANEL

| Ref. No. | Part No. | Description | | | | Remarks |
|---|---|---|---|---|---|---|
| R670 | 1-216-084-00 | METAL CHIP | 30K | 5% | 1/10W | |
| R671 | 1-216-090-00 | METAL CHIP | 51K | 5% | 1/10W | |
| R672 | 1-216-065-00 | METAL CHIP | 4.7K | 5% | 1/10W | |
| R673 | 1-216-080-00 | METAL CHIP | 20K | 5% | 1/10W | |
| R674 | 1-216-083-00 | METAL CHIP | 27K | 5% | 1/10W | |
| R675 | 1-216-080-00 | METAL CHIP | 20K | 5% | 1/10W | |
| R676 | 1-216-065-00 | METAL CHIP | 4.7K | 5% | 1/10W | |
| R677 | 1-216-089-00 | METAL CHIP | 47K | 5% | 1/10W | |
| R678 | 1-216-084-00 | METAL CHIP | 30K | 5% | 1/10W | |
| R679 | 1-216-083-00 | METAL CHIP | 27K | 5% | 1/10W | |
| R680 | 1-216-090-00 | METAL CHIP | 51K | 5% | 1/10W | |
| R681 | 1-216-090-00 | METAL CHIP | 51K | 5% | 1/10W | |
| R682 | 1-216-025-00 | METAL CHIP | 100 | 5% | 1/10W | |
| R686 | 1-216-063-00 | METAL CHIP | 3.9K | 5% | 1/10W | |
| R687 | 1-216-081-00 | METAL CHIP | 22K | 5% | 1/10W | |
| R690 | 1-216-025-00 | METAL CHIP | 100 | 5% | 1/10W | |
| R691 | 1-216-057-00 | METAL CHIP | 2.2K | 5% | 1/10W | |
| R692 | 1-216-081-00 | METAL CHIP | 22K | 5% | 1/10W | |
| R693 | 1-216-025-00 | METAL CHIP | 100 | 5% | 1/10W | |
| R696 | 1-216-081-00 | METAL CHIP | 22K | 5% | 1/10W | |
| R698 | 1-216-029-00 | METAL CHIP | 150 | 5% | 1/10W | |
| R699 | 1-216-081-00 | METAL CHIP | 22K | 5% | 1/10W | |
| R700 | 1-216-073-00 | METAL CHIP | 10K | 5% | 1/10W | |
| R6001 | 1-216-081-00 | METAL CHIP | 22K | 5% | 1/10W | |
| R6002 | 1-216-089-00 | METAL CHIP | 47K | 5% | 1/10W | |
| R6004 | 1-216-089-00 | METAL CHIP | 47K | 5% | 1/10W | |
| R6005 | 1-216-089-00 | METAL CHIP | 47K | 5% | 1/10W | |
| R6010 | 1-216-049-00 | METAL CHIP | 1K | 5% | 1/10W | |
| R6011 | 1-216-298-00 | METAL CHIP | 2.2 | 5% | 1/10W | |
| R6012 | 1-216-298-00 | METAL CHIP | 2.2 | 5% | 1/10W | |
| R6013 | 1-216-298-00 | METAL CHIP | 2.2 | 5% | 1/10W | |
| R6014 | 1-216-298-00 | METAL CHIP | 2.2 | 5% | 1/10W | |
| R6015 | 1-216-298-00 | METAL CHIP | 2.2 | 5% | 1/10W | |
| R6016 | 1-216-298-00 | METAL CHIP | 2.2 | 5% | 1/10W | |
| R6017 | 1-216-298-00 | METAL CHIP | 2.2 | 5% | 1/10W | |
| R6018 | 1-216-298-00 | METAL CHIP | 2.2 | 5% | 1/10W | |
| | | < VARIABLE RESISTOR > | | | | |
| RV101 | 1-241-136-11 | RES, ADJ, CARBON 10K (REC LEVEL L) | | | | |
| RV201 | 1-241-136-11 | RES, ADJ, CARBON 10K (REC LEVEL R) | | | | |
| | | < SWITCH > | | | | |
| S601 | 1-554-303-21 | SWITCH, TACTILE (ADJ. HIGH SPEED) | | | | |
| | | < TEST PIN > | | | | |
| * TP601 | 1-564-517-11 | PLUG, CONNECTOR 2P | | | | |
| | | < CRYSTAL > | | | | |
| X601 | 1-577-358-21 | VIBRATOR, CERAMIC (4MHz) | | | | |
| ********** | | | | | | |
| * | A-2006-712-A | PANEL BOARD, COMPLETE(Canadian, AUS, E, EA) | | | | |
| * | A-2006-715-A | PANEL BOARD, COMPLETE(AEP, G, EE) | | | | |
| * | A-2006-792-A | PANEL BOARD, COMPLETE(UK) | | | | |
| | | ********** | | | | |
| | | < CAPACITOR > | | | | |
| C351 | 1-126-163-11 | ELECT | 4.7uF | 20% | 50V | |
| C352 | 1-124-638-11 | ELECT | 22uF | 20% | 10V | |
| C353 | 1-164-232-11 | CERAMIC CHIP | 0.01uF | | 50V | |
| C354 | 1-164-232-11 | CERAMIC CHIP | 0.01uF | | 50V | |
| C355 | 1-164-232-11 | CERAMIC CHIP | 0.01uF | | 50V | |
| C356 | 1-163-125-00 | CERAMIC CHIP | 220PF | 5% | 50V | |
| | | < CONNECTOR > | | | | |
| CN351 | 1-568-795-11 | SOCKET, CONNECTOR 12P | | | | |
| | | < DIODE > | | | | |
| D301 | 8-719-301-38 | LED SEL2210S-C (DUBBING MODE) | | | | |
| D302 | 8-719-301-38 | LED SEL2210S-C (CD SYNCHRO) | | | | |
| | | < FLUORESCENT INDICATOR > | | | | |
| FL351 | 1-519-708-11 | INDICATOR TUBE, FLUORESCENT | | | | |
| | | < IC > | | | | |
| IC351 | 8-759-323-35 | IC HD614023-FA93 | | | | |
| | | < JUMPER WIRE > | | | | |
| JW302 | 1-216-295-00 | METAL CHIP | 0 | 5% | 1/10W | |
| | | < RESISTOR > | | | | |
| R351 | 1-216-029-00 | METAL CHIP | 150 | 5% | 1/10W | |
| R352 | 1-216-033-00 | METAL CHIP | 220 | 5% | 1/10W | |
| R353 | 1-216-037-00 | METAL CHIP | 330 | 5% | 1/10W | |
| R354 | 1-216-041-00 | METAL CHIP | 470 | 5% | 1/10W | |
| R355 | 1-216-045-00 | METAL CHIP | 680 | 5% | 1/10W | |
| R356 | 1-216-049-00 | METAL CHIP | 1K | 5% | 1/10W | |
| R357 | 1-216-067-00 | METAL CHIP | 5.6K | 5% | 1/10W | (AEP, UK, G, EE) |
| R357 | 1-216-055-00 | METAL CHIP | 1.8K | 5% | 1/10W | (Canadian, AUS, E, EA) |
| R359 | 1-216-045-00 | METAL CHIP | 680 | 5% | 1/10W | |
| R362 | 1-216-041-00 | METAL CHIP | 470 | 5% | 1/10W | |
| R363 | 1-216-045-00 | METAL CHIP | 680 | 5% | 1/10W | |
| R364 | 1-216-049-00 | METAL CHIP | 1K | 5% | 1/10W | |
| R365 | 1-216-067-00 | METAL CHIP | 5.6K | 5% | 1/10W | |
| R367 | 1-216-089-00 | METAL CHIP | 47K | 5% | 1/10W | |

When indicating parts by reference number, please include the board name.

**PANEL** **POWER**

| Ref.No. | Part No. | Description | | | Remarks |
|---|---|---|---|---|---|
| R368 | 1-216-089-00 | METAL CHIP | 47K | 5% 1/10W | |
| R369 | 1-216-089-00 | METAL CHIP | 47K | 5% 1/10W | |
| R372 | 1-216-041-00 | METAL CHIP | 470 | 5% 1/10W | |
| R374 | 1-216-041-00 | METAL CHIP | 470 | 5% 1/10W | |
| R375 | 1-216-081-00 | METAL CHIP | 22K | 5% 1/10W | |
| R376 | 1-216-121-00 | METAL CHIP | 1M | 5% 1/10W | |
| R377 | 1-216-085-00 | METAL CHIP | 33K | 5% 1/10W | |
| R378 | 1-216-033-00 | METAL CHIP | 220 | 5% 1/10W | |
| R379 | 1-216-025-00 | METAL CHIP | 100 | 5% 1/10W | |
| R380 | 1-216-025-00 | METAL CHIP | 100 | 5% 1/10W | |
| R381 | 1-216-025-00 | METAL CHIP | 100 | 5% 1/10W | |
| | | < SWITCH > | | | |
| S901 | 1-554-303-21 | SWITCH, TACTILE (CD SYNCHRO) | | | |
| S902 | 1-554-303-21 | SWITCH, TACTILE (AMS ◀◀ ) | | | |
| S903 | 1-554-303-21 | SWITCH, TACTILE (AMS ▶▶ ) | | | |
| S904 | 1-554-303-21 | SWITCH, TACTILE (REC ● DECK B) | | | |
| S905 | 1-692-064-11 | SWITCH, TACTILE (DECK A) | | | |
| S906 | 1-692-064-11 | SWITCH, TACTILE (DECK B) | | | |
| S907 | 1-554-303-21 | SWITCH, TACTILE (RESET) | | | |
| S908 | 1-554-303-21 | SWITCH, TACTILE (DOLBY NR) | | | |
| S909 | 1-554-303-21 | SWITCH, TACTILE (DUBBING MODE) | | | |
| S910 | 1-554-303-21 | SWITCH, TACTILE ( ■ ) | | | |
| S911 | 1-554-303-21 | SWITCH, TACTILE ( ▷ ) | | | |
| S912 | 1-554-303-21 | SWITCH, TACTILE ( ◁ ) | | | |
| S913 | 1-554-303-21 | SWITCH, TACTILE (PAUSE ▮▮ DECK B) | | | |
| S914 | 1-554-303-21 | SWITCH, TACTILE (DIRECTION MODE) | | | |
| | | < CRYSTAL > | | | |
| X351 | 1-577-101-11 | VIBRATOR, CERAMIC (4.19MHz) | | | |
| ********** | | | | | |
| * | A-2006-713-A | POWER BOARD, COMPLETE(Canadian, AUS, E, EA) | | | |
| * | A-2006-716-A | POWER BOARD, COMPLETE(AEP, G, EE) | | | |
| * | A-2006-793-A | POWER BOARD, COMPLETE(UK) | | | |
| | | ********** | | | |
| | | < CAPACITOR > | | | |
| C501 | 1-124-598-11 | ELECT | 22uF | 20% 25V | |
| C502 | 1-124-556-11 | ELECT | 2200uF | 20% 16V | |
| C503 | 1-124-556-11 | ELECT | 2200uF | 20% 16V | |
| C504 | 1-124-910-11 | ELECT | 47uF | 20% 50V | |
| C505 | 1-126-163-11 | ELECT | 4.7uF | 20% 50V | |
| C506 | 1-163-037-11 | CERAMIC CHIP | 0.022uF | 10% 25V | |
| C507 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | 25V | |
| C508 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | 25V | |
| C509 | 1-126-022-11 | ELECT | 47uF | 20% 16V | |
| C510 | 1-126-022-11 | ELECT | 47uF | 20% 16V | |
| C511 | 1-126-163-11 | ELECT | 4.7uF | 20% 50V | |
| C512 | 1-126-163-11 | ELECT | 4.7uF | 20% 50V | |
| C513 | 1-124-478-11 | ELECT | 100uF | 20% 25V | |
| C514 | 1-126-053-11 | ELECT | 220uF | 20% 35V | |
| C515 | 1-124-910-11 | ELECT | 47uF | 20% 50V | |
| C516 | 1-124-478-11 | ELECT | 100uF | 20% 25V | |
| C517 | 1-124-478-11 | ELECT | 100uF | 20% 25V | |
| C518 | 1-163-037-11 | CERAMIC CHIP | 0.022uF | 10% 25V | |
| C519 | 1-163-037-11 | CERAMIC CHIP | 0.022uF | 10% 25V | |
| C520 | 1-126-954-11 | ELECT | 3300uF | 20% 35V | |
| C521 | 1-163-125-00 | CERAMIC CHIP | 220PF | 5% 50V | |
| | | < CONNECTOR > | | | |
| CN501 | 1-691-907-11 | PIN, CONNECTOR 15P | | | |
| CN502 | 1-568-802-11 | SOCKET, CONNECTOR 19P | | | |
| | | < DIODE > | | | |
| D501 | 8-719-210-33 | DIODE EC10DS2 | | | |
| D502 | 8-719-210-33 | DIODE EC10DS2 | | | |
| D503 | 8-719-210-33 | DIODE EC10DS2 | | | |
| D504 | 8-719-210-33 | DIODE EC10DS2 | | | |
| D505 | 8-719-210-33 | DIODE EC10DS2 | | | |
| D506 | 8-719-210-33 | DIODE EC10DS2 | | | |
| D507 | 8-719-400-18 | DIODE MA152WK | | | |
| D508 | 8-719-401-71 | DIODE MA3068L | | | |
| D509 | 8-719-401-51 | DIODE MA3056L | | | |
| D510 | 8-719-401-51 | DIODE MA3056L | | | |
| D511 | 8-719-210-33 | DIODE EC10DS2 | | | |
| D512 | 8-719-210-33 | DIODE EC10DS2 | | | |
| D513 | 8-719-402-70 | DIODE MA3180 | | | |
| D514 | 8-719-210-33 | DIODE EC10DS2 | | | |
| D515 | 8-719-210-33 | DIODE EC10DS2 | | | |
| D516 | 8-719-210-33 | DIODE EC10DS2 | | | |
| D517 | 8-719-210-33 | DIODE EC10DS2 | | | |
| | | < FUSE > | | | |
| ⚠F501 | 1-532-778-21 | FUSE, MICRO 1.6A 125V(Canadian, AUS, E, EA) | | | |
| ⚠F502 | 1-532-778-21 | FUSE, MICRO 1.6A 125V(Canadian, AUS, E, EA) | | | |
| | | < IC > | | | |
| IC501 | 8-759-996-43 | IC RC4558PS | | | |
| | | < IC LINK > | | | |
| ⚠ICP501 | 1-532-841-21 | LINK, IC (AEP, UK, G, EE) | | | |
| ⚠ICP502 | 1-532-841-21 | LINK, IC (AEP, UK, G, EE) | | | |
| | | < JUMPER WIRE > | | | |
| JW501 | 1-216-296-00 | METAL CHIP | 0 | 5% 1/8W | |
| JW502 | 1-216-296-00 | METAL CHIP | 0 | 5% 1/8W | |
| JW503 | 1-216-296-00 | METAL CHIP | 0 | 5% 1/8W | |
| JW504 | 1-216-296-00 | METAL CHIP | 0 | 5% 1/8W | |

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

Les composants identifiés par une marque ⚠ sont critiques pour la sécurité.
Ne les remplacer que par une pièce portant le numéro spécifié.

When indicating parts by reference number, please include the board name.

# POWER

| Ref. No. | Part No. | Description | | | Remarks |
|---|---|---|---|---|---|
| | | < TRANSISTOR > | | | |
| Q502 | 8-729-602-21 | TRANSISTOR | 2SC4154 | | |
| Q503 | 8-729-209-15 | TRANSISTOR | 2SD2012 | | |
| Q504 | 8-729-805-44 | TRANSISTOR | 2SC3397 | | |
| Q505 | 8-729-141-83 | TRANSISTOR | 2SB1094-LK | | |
| Q506 | 8-729-209-15 | TRANSISTOR | 2SD2012 | | |
| Q507 | 8-729-140-04 | TRANSISTOR | 2SB1116A-L | | |
| Q508 | 8-729-421-22 | TRANSISTOR | UN2211 | | |
| | | < RESISTOR > | | | |
| R501 | 1-247-752-11 | CARBON | 1K | 5% 1/2W | |
| R502 | 1-216-057-00 | METAL CHIP | 2.2K | 5% 1/10W | |
| R503 | 1-216-041-00 | METAL CHIP | 470 | 5% 1/10W | |
| R504 | 1-216-057-00 | METAL CHIP | 2.2K | 5% 1/10W | |
| R505 | 1-216-089-00 | METAL CHIP | 47K | 5% 1/10W | |
| R506 | 1-216-065-00 | METAL CHIP | 4.7K | 5% 1/10W | |
| R507 | 1-216-069-00 | METAL CHIP | 6.8K | 5% 1/10W | |
| R508 | 1-216-053-00 | METAL CHIP | 1.5K | 5% 1/10W | |
| R509 | 1-216-053-00 | METAL CHIP | 1.5K | 5% 1/10W | |
| R510 | 1-216-069-00 | METAL CHIP | 6.8K | 5% 1/10W | |
| R511 | 1-216-073-00 | METAL CHIP | 10K | 5% 1/10W | |
| R512 | 1-216-049-00 | METAL CHIP | 1K | 5% 1/10W | |
| R513 | 1-216-069-00 | METAL CHIP | 6.8K | 5% 1/10W | |
| R514 | 1-216-065-00 | METAL CHIP | 4.7K | 5% 1/10W | |
| R516 | 1-216-057-00 | METAL CHIP | 2.2K | 5% 1/10W | |
| R517 | 1-216-065-00 | METAL CHIP | 4.7K | 5% 1/10W | |

**********

| Ref. No. | Part No. | Description | Remarks |
|---|---|---|---|
| | | MISCELLANEOUS | |
| | | ********** | |
| 10 | 1-690-892-11 | WIRE (FLAT TYPE) (12 CORE) | |
| 23 | 1-590-902-11 | WIRE, FLAT TYPE (9 CORE) | |
| 26 | 1-690-893-11 | WIRE (FLAT TYPE) (19 CORE) | |
| 28 | 1-690-878-11 | CORD (WITH CONNECTOR) | |
| 172 | 1-638-983-11 | PC BOARD, MOTOR FLEXIBLE | |
| * 177 | 1-690-419-11 | WIRE, LEAD (WITH CONNECTOR) 4CORE | |
| HP901 | A-2003-958-B | BASE ASSY, HEAD (DECK A) | |
| HRPE901 | A-2003-838-A | BASE ASSY, HEAD (DECK B) | |
| M901A | X-3359-417-1 | CAPSTAN MOTOR ASSY (DECK A) | |
| M901B | X-3359-417-1 | CAPSTAN MOTOR ASSY (DECK B) | |
| M902A | X-3363-501-1 | REEL MOTOR ASSY (DECK A) | |
| M902B | X-3363-501-1 | REEL MOTOR ASSY (DECK B) | |

**********

## HARDWARE LIST

| | | |
|---|---|---|
| #1 | 7-621-773-93 | SCREW (PANEL 2.6 TP2) |
| #2 | 7-621-255-15 | SCREW +PTT 2X3 (S) |
| #3 | 7-685-646-79 | SCREW +BVTP 3X8 TYPE2 N-S |
| #4 | 7-682-547-04 | SCREW +BVTT 3X6 (S) |
| #6 | 7-621-775-00 | SCREW +B 2.6X3 |
| #7 | 7-627-556-08 | SCREW +P 2.6X2.8 |

When indicating parts by reference number, please include the board name.

9-957-006-12

Sony Corporation
Audio Group

English
92E1917-1
Printed in Japan
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# TC-H1700

SONY

# SERVICE MANUAL

*AEP Model*
*UK Model*
*E Model*
*Australian Model*

## SUPPLEMENT-1

File this supplement with the service manual.

Additional of Italian model.

- For Italian model, see the description on Germany model in the 9-957-006-11 service manual.


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**9-957-006-81**

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